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ORIGINAL ARTICLES.

THE CONSERVATIVE USE OF THE STOMACH TUBE IN THE TREATMENT OF GASTRIC DISEASES.

Read by title in the Section on Practice of Medicine at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY J. M. G. CARTER, M.D. Sc.D., PH.D.

PROFESSOR PREVENTIVE AND CLINICAL MEDICINE, COLLEGE OF PHYSICIANS AND SURGEONS OF CHICAGO; FELLOW OF THE AMERICAN ACADEMY OF MEDICINE, ETC.

WAUKEGAN, ILL.

The use of the stomach tube in the treatment of gastric affections has become so common in certain localities that it is necessary to call attention now and then to the dangers, as well as to the advantages of its use, and to study its scientific application.

Since Kussmaul urged the advantages of the stomach tube in 1867, the profession has given more or less thought to it; Leube in 1874 recommended the tube for diagnostic purposes, and in 1875 Ewald used the soft rubber tube for washing out the stomach. During the last twenty years it has gained in favor, and diseases of the stomach have been so thoroughly investigated by means of this instrument and the chemic analysis of the stomach contents, that a new specialty has been placed in the medical field.

A word of caution needs to be uttered to prevent the popularity which this method has attained from carrying its use too far. No more cases occur now which need the tube than did before the discovery of its value rendered its use so common. It requires skill and patience to know when it should not be used and to wait for the slower processes of other methods of treatment.

It is well, then, to mention briefly some objections to, and dangers accompanying its use. Some degree of alarm is occasionally felt at finding portions of mucous membrane attached to the tube when it is withdrawn from the stomach. Especially is this the case with stiff instruments. It may occur also with the soft tubes. Where the patient's mucous membranes are thin and easily irritated, and where the epithelium is more readily removed than seems normal, I dislike to use the tube. In such cases abrasions are likely to occur, and although there is a tendency to rapid healing under such circumstances, the possibility remains that some cases may not heal and the traumatism may lead to ulcer of the stomach. The possibility of such an occurrence should suggest a careful investigation of the mucous membrane before introduction of the tube. In aphthous and other inflammatory states it is ordinarily not advisable to use the tube. Another danger is that perforation of the esophageal or gastric wall sometimes occurs. The possibility of this accident should be remembered in stenosis of the cardia or esophagus, in ulcer of the stomach and in the later stages of gastric cancer. This accident has occurred in very skillful hands and is not to be lightly viewed. Such cases have been reported by Abercrombie, Frerichs and others. I should consider the stomach tube contra-indicated in stenosis due to pressure of aneurysm or abscess, and in cases accompanied by degeneration of the tissues above the stricture—a matter, however, which could not be easily discovered before death. In ulcer and the later stages of cancer of the stomach, the danger of perforation is sufficient to contra-indicate the use of the tube except in rare instances. An objection to the use of the tube in inflammation or congestion, in ulcer and in altered conditions of the mucous membrane is the fear, even the probability, of causing hemorrhage. These hemorrhages are not always manifested as a sudden hematemesis but may, by causing an abrasion of the mucous membrane or rupturing a small vessel, produce an oozing or slow hemorrhage, sometimes shown only by darkened or blood-stained stools. However, an alarmingly profuse hematemesis may occur and the possibility of this accident should be eliminated or reduced to the minimum by extreme caution in such cases.

The fact that syncope and death have resulted from the use of the stomach tube is a matter of considerable interest and great importance. The varying pressure upon the great abdominal plexuses of the sympathetic, produced by filling and emptying the stomach with the tube is believed by Fenwick to be the cause of this accident. The indiscriminate washing out of the stomach and filling the stomach with excessive quantities of water are to be discouraged.

Besides the evil results which may occur from pressure upon the sympathetic plexuses, it is undoubtedly true that the mere irritation of the mucous membrane in the stomach by the presence of the tube may produce fainting or syncopic attacks, as also occurs occasionally when food is introduced into the stomach. These cases seem to occur under circumstances where the irritation would ordinarily produce vomiting, but some idiosyncrasy causes the syncope instead of nausea, or perhaps both sensations may be experienced.

Spasm and tetany are somtimes met with and the latter may prove fatal. Manges gives 72 per cent. as the mortality in cases of tetany. Although few cases have been reported as compared with the great number of times the tube has been used, still precaution is urged, as we do not know in advance what patient may die from this complication. The spasm of the throat is very common and in many cases requires the use of cocain. Spasm in children may prevent the use of the tube except under chloroform or ether. Another objection to the use of the tube, which has been considered by some even more serious than those already mentioned, is the removal of the

natural secretions by lavage. The habitual washing out of the stomach when considered from this point of view only, undoubtedly is to be discouraged. The withdrawing from the body's nourishment of the chyme which the stomach labors so hard to manufacture is not to be considered lightly; but if the digestive and absorptive powers of the viscus are impaired it can not be known that undigested food does not remain in the stomach until it acts as a foreign body. If relief is afforded the patient by the use of lavage it may be accepted usually as evidence that good has been accomplished. Still it must follow that no general treatment by lavage should be adopted until careful investigation has shown that the benefits to be derived outweigh the risks assumed.

Again, when lavage has accomplished its work it should be stopped. Further use may prove to be a positive evil. I know a case where a young lady was advised to use the stomach tube for nervous or functional dyspepsia. She submitted to the treatment by a young physician who was very enthusiastic in his work. The patient improved for a time. At this point a conservative physician would have stopped the treatment. The lavage was persistently continued for months, however, the case growing worse; and after a year of such treatment the too submissive patient was not so well as she was when the lavage was begun. Such instances of indiscretion in the use of any remedial agent, while suggesting caution, do not militate against the value of the measure when properly used.

I should advise the use of the tube for the purpose of lavage or washing out the stomach for the following six objects: 1, to remove undigested food and foreign matters; 2, to cleanse the mucous membrane for the action of medicines: 3, to check hemorrhage; 4, to give antiseptic douchings; 5, for sedative purposes; 6, for general tonic effects upon the stomach, mucous membrane and parietes.

1. The removal of undigested foods may become necessary in indigestion, functional dyspepsia, dilatation, cancer and pyloric stenosis. In such cases nothing can be done until the stomach has been relieved of the offending matter. Frequently in some of these cases vomiting can not easily be induced, and in others it is not to be encouraged. It is a common experience that no treatment gives such complete temporary relief in functional dyspepsia, dilatation, cancer and stenosis as lavage. This removes the undigested remnants of food, fermentative and putrefactive products, and exercises a beneficent tonic influence upon the gastric mucous membrane.

2. In atrophy, chronic gastritis and also in functional dyspepsia, as in other neuroses, washing the tenacious mucus from the membrane gives a surface by which medicines are more readily absorbed. There is no doubt that tardy recoveries or entire failures in the treatment of some neuroses, including atonic or nervous dyspepsia, are due in part to the failure of the gastric mucous membrane to absorb the medicines prescribed. This occurs often where the absorptive function is not materially impaired. Such cases can be explained by supposing that the tenacious mucus on the mucous membrane interferes with the process of absorption. The removal of this mucus will facilitate the action of the medicines which are given.

3. The application of cold is a common method of controlling hemorrhage. Ice-cold water can be applied to the mucous membrane of the stomach in hematemesis in two ways. First, the patient may be required to drink ice water and swallow bits of ice. The quantity which can be thus used is limited. Second, it frequently happens that hemorrhages occur in ulcer and other pathologic conditions under circumstances which do not forbid the use of the stomach tube and where a prolonged application of cold to the gastric surface is desirable. In such conditions one is justified in applying a continuous douching by withdrawing the water after it has been in the stomach four or five minutes and re-introducing a supply of ice-cold water to be again withdrawn in the same manner. This process may be continued as long as necessary, if no untoward symptoms arise from the prolonged use of cold. In ulcer, cancer, and rupture of vessels of considerable size, danger may attend the expression method of emptying the stomach; hence it is wise to use an aspirator or exhausting bulb or syringe to remove the water.

4. One of the most simple and advantageous uses of the tube is for the purpose of removing the products of fermentation and putrefaction. In all diseases where fermentation occurs, as in functional dyspepsia, certain other neuroses, dilatation, chronic gastritis and cancer of the stomach, the gases and other abnormal products of faulty digestion act as irritants, and nothing relieves the patient so quickly and completely as lavage. In many of these cases especially nervous dyspepsia and gastrectasis, and often in chronic gastritis, lavage not only serves to give temporary relief, but is also an excellent therapeutic agent in accomplishing a permanent cure.

5. Perhaps no class of diseases of the stomach is so generally benefited by lavage as the neuroses. Functional dyspepsia has already been mentioned. Gastralgia, nervous eructation, hyper-secretion, the various conditions accompanying neurasthenia and nervous vomiting are frequently thus relieved, the depraved condition (if one exists) which allows these states to arise removed, and a gentle tonic influence imparted to the gastric mucous membrane which is spread until it helps to remove the cause of the neurosis. The impression made upon the general nervous system, the quick response of the sympathetic system, the increase in the circulation and consequently the improved general metabolism are, without doubt some of the most important effects of washing out the stomach in these cases. The readiest means of relieving obstinate hiccough, heartburn and other symptoms of gastric irritation may often be found in the use of lavage. No one who has had large experience in such cases can doubt the beneficent influences of lavage. Nevertheless, there are some neurotics who can not submit to the lavage treatment on account of syncopic or other distressing symptoms.

6. It can not be doubted that cold or tepid bathing and sometimes hot bathing produces general tonic effects. Similar effects are often observed in the lavage treatment of the stomach—bathing or washing that viscus. In atonic conditions of the muscular coat of the stomach, in anemic conditions of the mucous membrane and in deficient gastric secretion, there are few remedial agents which will produce better results than systematic lavage. Auto-lavage, or the use of the tube by the patient is not to be encouraged, except in the few cases where definite in-

structions with proper cautions and restrictions will be observed.

A review of the foregoing study of our subject reminds us that while the field for lavage is large and its position as a therapeutic measure established, it requires skill and care to use it always for good and not for evil. There are many conditions, idiosyncrasies and circumstances which will forbid its use. Some of these can be overcome, some can not. Conservatism should mark the physician's course here, as in most departments of medical practice.

THE EFFECT OF INHALATION OF OXYGEN UPON THE HEMOGLOBIN.

Read in the Section on Practice of Medicine, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY GEORGE J. PRESTON, M.D.

PROFESSOR OF PHYSIOLOGY AND DISEASES OF THE NERVOUS SYSTEM COLLEGE OF PHYSICIANS AND SURGEONS,

BALTIMORE, MD.

Ever since the discovery of oxygen by Priestley in 1774, it has been used as a therapeutic agent. In fact, Priestley himself made a number of experiments upon animals with the gas, thus preparing the way for experiments upon the human subject. A few years after his discovery, Lavoiser and Spalanzani demonstrated the relationship of oxygen to atmospheric air, and showed in a rough way the changes it produced in the blood. These experiments were more physiological than therapeutical, but not long after this date, Caillens in 1783 employed oxygen therapeutically. Jurine of Geneva, and Chaptal of Montpellier, followed with reports of cases of phthisis benefited by its use. The report of Fucroy to the French Academy was very extreme, making as it did absurd claims for oxygen in the treatment of numerous diseases. Beddoes in 1789 made a number of important observations upon the physiologic action of oxygen, and also employed it in practice. In conjunction with Sir Humphrey Davy and James Watt he established an institution for the treatment of disease by oxygen, an account of which may be seen in an extremely interesting paper on its therapeutic use by Dr. A. H. Smith in the *New York Medical Journal*, April, 1870. Gardner in the *American Journal of Medical Sciences*, 1844, makes the remarkable statement that, "by the use of peroxid of nitrogen, or by rapid breathing, an increased quantity of oxygen enters, and as it can not be expelled as an element it acts upon more atoms of fibrin." Richardson made a number of experiments upon animals, and concludes that "the blood does not take up more oxygen unless more CO_2 is given off." (*Lancet*, 1878.)

The above citations taken from the literature of the century following the discovery of oxygen, will give some idea of the way the profession regarded the subject. The literature is quite considerable but of little real value, since the rather crude experiments proved little, and the clinical experience related proved entirely too much. The experiments of Lavoiser and Spalanzani referred to above, showed the effect of oxygen upon the blood, although the fact that blood exposed to the air changed color was known long before this time, as early as 1665. Davy then extracted oxygen from blood; Regnault and Reiset and also Liebig announced that animals used the same amount of oxygen when breathing an atmosphere composed of that gas alone as when they breathed ordinary air. (McKendric.) Liebig claimed that the gases were not merely dissolved in the blood, but existed in a state of loose chemic combination. Funke, Hoppe-Seyler, Schmidt, Stokes and others between the years 1853 and 1864 carefully worked out the nature and function of hemoglobin.

The history of the experiment of placing animals in an atmosphere of pure oxygen is an interesting one to physiologists, serving as a valuable object lesson. For many decades after the discovery of Priestley it was held that an animal could not live in this pure element. Then it was discovered that by providing for the absorption of the expired CO_2 the life of the animal could be indefinitely prolonged. In regard to the number of respirations, my experiments showed that for the first few minutes there was a great rise, then a fall to about half the normal number. In the human subject the inhalation of pure oxygen seems to have little effect upon the pulse or arterial tension, but diminishes the number of respirations.

Admitting the fact that inhalations of pure oxygen under normal temperature and pressure, cause merely a diminution in the number of respirations a very practical question arises, namely, whether in the inspiration of pure oxygen the blood becomes more highly oxygenated than it does when ordinary air is breathed. The early observers fixed hardly any limit to the absorption of oxygen, believing it to be merely dissolved in the fluid as a whole. Then it was shown that the hemoglobin of the red corpuscle played a very important part, appropriating the oxygen from the plasma. As a matter of fact the serum is capable of absorbing little if any more of this element than of distilled water. The relationship which hemoglobin bears to the red corpuscle is still somewhat *sub judice;* we simply know that the combination of oxygen with hemoglobin is a very loose one, subject to certain laws of pressure and temperature, and that disassociation may be very easily brought about without disturbing the molecule of hemoglobin. (Foster.) The old observers thought that by the inhalation of pure oxygen a condition of what they termed "super saturation" of the blood was obtained. More exact observation showed this view to be untenable. Under pressure it is possible to make the serum take up more oxygen just as distilled water will do under like conditions. The quantity taken up by the hemoglobin of the red corpuscles is fixed, or nearly so. Experiments upon a solution of hemoglobin show that if a sufficient quantity of oxygen be present, each gram of the solution will take up 1.59 c. c. If there is an insufficient quantity present the hemoglobin will not be completely satisfied, or, to quote Foster: "We may perhaps say that a part only of the hemoglobin gets its allowance of oxygen, while the remainder continues reduced." Or it may very well be that while breathing ordinary air, a certain proportion of the red corpuscles pass through the pulmonary capillaries with their hemoglobin unsatisfied, or only partially satisfied with oxygen. The following experiments bear upon this point. The animals were placed under a glass jar which was first filled with pure oxygen which had been washed several times and a stream of the gas was allowed to pass into the jar from a cylinder. A sufficient quantity of caustic potash was kept in the jar to absorb all the CO_2. The hemoglobin was measured by the hemo-

globinometer of Fleischl before and after the experiments.

Experiment 1. White rabbit; hemoglobin 58; respirations 100. Was kept in the oxygen for five minutes, and at the end of this time the number of respirations had gone up to 200 a minute and there was no change in the per cent. of hemoglobin.

Experiment 2. Black rabbit; hemoglobin 52; respirations 100. Was kept in oxygen for fifteen minutes. The number of respirations fell to 80 and the per cent. of hemoglobin rose to 80.

Experiment 3. White rabbit; was kept in oxygen for thirty minutes and respirations dropped from 100 to 60, and hemoglobin rose from 58 to 62.

Experiment 4. Black rabbit; one hour in the oxygen; respirations dropped from 100 to 35, and hemoglobin rose from 52 to 67.

Experiment 5. White rabbit; thirty minutes in oxygen; respirations dropped from 120 to 56 and hemoglobin rose from 55 to 62.

Experiment 6. White rabbit; one hour in oxygen; respirations dropped only 10, and there was no change in the hemoglobin. It was ascertained afterward that the oxygen in the cylinder was exhausted toward the close of the experiment.

Experiment 7. White rat; respiration 200; hemoglobin 94. Kept in oxygen thirty minutes. Respiration dropped to 100; hemoglobin rose to 97.

Of the seven experiments, there were only two that did not show diminution in the number of respirations and rise in the percentage of hemoglobin. Of the two failures Case 1 was not kept in the oxygen long enough, as later experiments proved, and the other, Case 6, through the exhaustion of oxygen in the cylinder was breathing practically atmospheric air toward the close of the experiment.

Experiment 8. Small dog. Oxygen was injected into the rectum for forty minutes. Respirations fell from 24 to 10; hemoglobin rose from 82 to 84.

In addition to the above experiments on animals, the following observations were made on four healthy men:

Experiment 9. Mr. C., weight 140 pounds; inhaled oxygen for seven minutes; hemoglobin estimated before inhalation 82; after 92.

Experiment 10. Mr. B., weight 160; time of inhalation five minutes; hemoglobin, before 78; after 87.

Experiment 11. Mr. C., weight 150; time of inhalation six minutes; hemoglobin estimated before inhalation 76; after 83.

Experiment 12. Dr. P., weight 190; inhaled oxygen five minutes; hemoglobin estimated before inhalation 80; after 95.

There were no special symptoms attending the inhalation of oxygen except a certain lessening of the desire to breathe. There was not present the exhilaration and quickened pulse which has been described. This agrees with the observations made by Kerr, (*Lancet*, 1893). While one naturally hesitates to draw conclusions from so small a number of experiments, still it would seem reasonable that the inhalation of pure oxygen raises decidedly the percentage of hemoglobin in the blood. In all probability this is brought about, not by increasing the oxygen in the plasma, but by the fact that an excess of oxygen being present, all the hemoglobin is satisfied; or, to put it another way, fewer of the red corpuscles pass through the pulmonary capillaries, without obtaining their complement of oxygen.

While making these experiments it occurred to me that something might be learned from the study of the blood during and after the use of anesthetics. The first case examined showed a decrease of hemoglobin from 80 to 68; the estimations were made before the subject was put under chloroform and again after he had been under the influence of the anesthetic for fifteen minutes. Shortly after beginning this series of experiments I saw the very interesting paper by J. C. DaCosta, published in the Philadelphia *Medical News*, March 2, 1895. This observer demonstrated the marked reduction of hemoglobin during etherization, and also showed that this was not due to any diminution in the number of the red corpuscles. These experiments of DaCosta's taken together with my own, would go very far, it seems to me, toward proving the truth of the supposition stated in the first part of this paper, that in ordinary respiration a certain proportion of the red corpuscles were not completely satisfied with oxygen, or that in their passage through the pulmonary capillaries many of the corpuscles got through without having their reduced hemoglobin acted upon by oxygen.

The subject of the therapeutic use of oxygen, if any one will glance over the literature, has been treated in a thoroughly empirical manner. Almost every known disease has been cured by its use, if we can believe the glowing accounts of enthusiastic advocates. Moreover it has been so largely used by quacks, and so actively advertised by nostrum vendors, that the profession have naturally been deterred from its use. The investigation and the experiments related above were undertaken to see whether or not there was any scientific basis for the many claims made for the therapeutic use of oxygen. Although these experiments have been few, and not very exact, still enough has been done to show that the percentage of hemoglobin in the blood can be largely increased by the inhalation of pure oxygen. This method should have a full and scientific trial in pneumonia, acute bronchitis, pulmonary emphysema, pulmonary tuberculosis, and diseases obstructing the air passages. Again it might give good results in the treatment of certain forms of anemia. Its most brilliant future probably lies in its use by rectal injections. Kellogg and others have made some limited experiments with this method of introduction, but it needs further trial. Among those who have recorded clinical observations in the use of oxygen in various diseases are Gardner (*American Journal of Medical Sciences*, 1844); Birch (*Lancet*, 1857); Richardson (*Lancet*, 1878); Professor Cabell (*Virginia Medical Monthly*, 1874); Oppenheim (*Deutch Med. Woch.*, 1876); Hayem (*Gaz. des Hop.*); Gray (*Virginia Medical Monthly*, 1874); Wallian (N.Y. *Med. Rec.*, 1883-84-85); (*Med. News*, 1890); Neech (*British Medical Journal*, 1892); Kerr (*Lancet*, 1893), and many others. For the full description of the methods of using oxygen therapeutically, reference is made to the interesting paper of Aulde in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Dec 6, 1890. These preliminary notes on the use of oxygen are offered in the hope that the profession may be induced to make further and more careful use of an agent which theoretically, at least, should prove valuable.

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LEAD ENCEPHALOPATHY, WITH A REPORT OF A CASE.

Read in the Section on Practice of Medicine, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY ALBERT E. ROUSSEL, M.D.

ADJUNCT PROFESSOR OF PRACTICE AND OF CLINICAL MEDICINE, MEDICO-CHIRURGICAL COLLEGE, ETC., PHILADELPHIA.

R. H., age 35 years, an artist by profession, first consulted me March 3, 1890. The patient, a well-nourished and intelligent man of good habits, had never been sick from childhood, and reported a remarkably good family history. For some time previous he had noticed a gradual deterioration of health, as manifested by persistent insomnia, coated tongue, loss of appetite, mental and physical lassitude and an increasing tendency to constipation. A careful physical examination gave no clue to the cause of the above symptoms, save visual evidences of a rather pronounced anemia. Examination of the blood gave 2,500,000 red corpuscles to the c. m., while the hemoglobin remained about normal, 85 per cent. Some slight accentuation of the second sound of the heart was discernible. The urine was concentrated, reddish in color, specific gravity 1018, with absence of both albumin and sugar.

Three days later (March 6) I was hastily summoned to the bedside of my patient, who had suddenly been seized with a most excruciating attack of colic with attendant marked constipation. The pain was most severe in the neighborhood of the umbilicus, intermittent in character and decidedly relieved by forcible pressure during the attack, while marked hyperesthesia was manifested during the intervals, so that even superficial pressure was badly supported. The abdomen was decidedly retracted and the liver dullness apparently slightly diminished. The tongue was white, flabby and tremulous and there was now apparent, for the first time, a faint bluish line at the margin of the teeth. Temperature 97 3-5. Urine specific gravity 1014, absence of sugar and albumin, but subsequent examination exhibited slight traces of lead.

Evidently the case was one of lead poisoning, and appropriate treatment was therefore instituted, but the interesting question remained as to the manner of entrance of the poison into the system. Although distantly allied to that of house painter, the occupation hardly gave answer to this query, and it was only after careful investigation that the following interesting fact was elicited. The patient had recently married, and the newly made wife had, with commendable neatness, objected to an old-established habit of the husband, which consisted in wiping his brushes on his clean linen. Accordingly our patient now refrained from that, but after more or less completely cleansing his brushes, would now pass them between his lips. This condition of affairs had only been in progress for about six weeks before the commencement of the above detailed decided symptoms, beside which, as was pertinently remarked, his mode of life, residence, etc., had otherwise remained the same.

Under treatment, the attack gradually diminished in intensity so that on March 9 the colicky pains had almost disappeared. The blue line on the gums had, however, become more intensified and a well-marked patch similar in character was now observed on the mucous membrane of both cheeks. These patches became white in color when the mouth was washed out with oxygenated water, as pointed out by Gubler, nor were there other evidences of a speedy convalescence. On the contrary, headache, dimness of vision, general muscular as well as arthritic pains now became prominent, as well as slight palsy of the right arm. An examination of the eyes was made at this time, but revealed nothing typical. The above symptoms continued, notwithstanding the treatment, until March 14, when while on the street our patient after experiencing a decided feeling of malaise, suddenly fell to the ground, seized with an attack of convulsions. He was at once removed to a neighboring saloon and two hours later to the Pennsylvania Hospital. At the time of his admission a violent delirium manifested itself, and continued without interruption throughout the entire night.

On the following morning his condition being unchanged and no history being obtainable, the hospital authorities decided to transfer him to the insane department of the Philadelphia Hospital when his wife discovered his whereabouts and took him home.

At this time, March 15, the delirium was extremely violent and continuous, and it was found necessary to strap the patient to the bed to prevent his bodily injury. Temperature 101⅘. A small quantity of urine drawn from the bladder gave evidence of the continued absence of both albumin and sugar. Contrary to the established rule in these cases there was no period of somnolence, and notwithstanding the administration of large doses of soporifics, both by the stomach and by hypodermic injection, it was found to be utterly impossible to produce sleep.

On the morning of March 16, the condition remained unchanged, with the natural exception of evidences of failing strength. At about 11 A.M. a severe convulsion occurred which was repeated at 1 P.M., at the hour of my arrival. This was general in character and after having lasted some fifteen minutes I had recourse to the anesthetic effects of ether. After a rather large quantity had been administered I had the profound satisfaction of noting the cessation of the convulsive attacks and the beginning of a long and profound sleep. This continued for a period of seven hours, at the end of which time there was a sudden awakening with complete restoration of consciousness and the entering into a subsequent speedy convalescence.

It is interesting to note that an examination of the urine immediately following the convulsive attack showed for the first time the presence of albumin in a fairly abundant quantity, without, however, any casts. A slight trace of sugar was also discernible on this occasion.

The question as to the exact cause of these cerebral symptoms does not seem to be much further advanced than in the time of Tanquerel. Recent post-mortems of cases of this kind made by Renant shows the brain substance to be yellowish, harder and more friable than normal, and chemic analysis shows the distinct presence of lead in the cerebral tissue. But these same conditions have also been noticed in other cases of lead poisoning which had not presented cerebral symptoms.

Therefore, besides the direct action of the lead on the brain cells we should, I think, admit the action of the poison on the cerebral vessels themselves, which may produce subsequent hemorrhage or softening to the parts supplied.

The question of uremic poisoning, as explanatory of this condition, should more properly be regarded as exceptional, instead of the general rule. Not only is albumin more often absent than present, but when found in only a moderate amount and not associated with other evidences of renal disease may very well be due to the rapid disintegration of the blood corpuscles, which we know does now occur and which usually marks the breaking down of the general condition. Besides which we have the temporary albuminuria immediately following the convulsive attack.

As pointed out by Hayem, the blood changes are those showing a marked loss of red corpuscles and a normal percentage of hemoglobin, the white corpuscles being unaltered. Chemic analysis of this fluid will show the presence of lead.

Quite recently Desoto, Aschard, Charcot and others have given us strong evidences tending to prove that many of the so-called cases of saturnine apoplexy are distinctly hysterical in nature and readily respond to the special treatment. They point out that hemianesthesia may appear early in the case, or, on the other hand, after apoplectic or convulsive seizures. The above condition may exist alone or accompany a motor hemiplegia with abolishment of sensation to contact, pain and temperature, with feeble or suppressed vision, hearing, taste and smell. Some peripheral reflexes may persist, but the pharyngeal reflex is generally abolished.

In a rather large experience in case of lead poisoning I have recently had reason to confirm the views of the above writers, namely, that in a fair proportion of cases many of the symptoms formerly attributed to the direct action of the lead, such as anesthesia, a hyperesthesia of local parts, much of the headache, etc., may be more successfully treated by the bromids than by the iodids. According to the views of the above authors, the existence of hemianesthesia is proof of the hysterical nature of the affection.

This may also explain the relative frequency of cases of lead encephalopathy, found in recent medical literature, with a proportionate lessening of the mortality records. Tanquerel, in his large experience, met with but seventy cases which presented mortality of about 80 per cent., and at the present day, men of wide experience and careful observation mention its rarity as well as continued high death rate.

A short time since I treated two cases of so-called lead asthma, on the above theory, with such prompt and satisfactory results that I think the fact merits special attention. In both of these cases I noted that the respiratory dyspnea was not so proportionately marked as in cases of true asthma. As the symptoms are otherwise identical, with the exception that they disappear when the special poison is removed from the system, the above fact if further corroborated may prove to be of diagnostic importance.

Trophic Changes.—Gubler points out that the dorsal tumor of the wrist which has long been considered pathognomonic of lead poisoning, is a swelling of the sheaths of the extensors as a result of the paralysis of the posterior muscles of the forearm. This is an indolent tumor, generally about the size of a pigeon's egg, situated on the dorsal aspect of the wrist, hard and resisting to the touch and movable with the extensor tendons.

Regarding the treatment of the encephalopathy but little can be said other than that it should be symptomatic. Undoubtedly the main indication is to produce sleep, as experience teaches us that the longer the patient remains in this condition the less apt is the case to terminate favorably. Permanent insanity has resulted.

The anesthetic effect of the ether followed by a long sleep, as in the case reported in this paper, leads me to make earlier use of this agent if other remedies fail.

Just one word more as regards the treatment of the lead colic and constipation. Following the teaching of recent French authorities, I have made use of large doses of olive oil, in half a dozen or more cases, with apparently more satisfactory results than by the use of magnesia and other drugs. In three of the above cases, the use of the oil relieved the pain before the bowels were opened, and I think this treatment merits further attention. Cocain or other similar remedies may be necessary, however, to cause the stomach to retain this medicament.

A STATISTICAL STUDY OF THE COMPLICATIONS OF MALARIA.

Read in the Section on Practice of Medicine, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY J. M. ANDERS, M.D., PH.D.

PROFESSOR OF MEDICINE AND CLINICAL MEDICINE AT THE MEDICO-CHIRURGICAL COLLEGE; PHYSICIAN TO THE PHILADELPHIA AND MEDICO-CHIRURGICAL HOSPITALS, PHILADELPHIA.

In this paper I have endeavored to present carefully collected statistics, which establish certain facts pertaining to a number of complications of malaria. That not a few of the conclusions arrived at are at variance with the pre-conceived notions of many of his readers, the writer fully realizes, but he hopes that he has not fallen into the error of basing those conclusions upon too slender evidence. Everything of an argumentative nature has been excluded, in order to bring the paper within the time limit of the Section on Practice. Accordingly, the article is, for the most part, a mere statement of facts and figures which must speak for themselves, and from which a few not unimportant deductions it is hoped may be drawn. To the literature of the subject brief reference only has been made.

The total number of cases which were analyzed and form the basis of the present paper were 2,122. Of these, 1,132 cases were furnished by the records of the Pennsylvania Hospital, extending over a period of twenty-one years (1873 to 1894 inclusive); 611 cases were furnished by the records of the Philadelphia Hospital, during eight years (1886 to August, 1894, inclusive), and 379 cases by the Episcopal Hospital, the latter occurring during the decade recently ended (1885 to 1894 inclusive). In this connection I desire to express my deep obligation to Dr. Morris Booth Miller, without whose kind assistance the data obtained at the Pennsylvania Hospital could not have been procured.

The notes of the cases gleaned from the records of the Pennsylvania Hospital, those gleaned from the records of the Episcopal Hospital and also those from the Philadelphia Hospital from 1889 to August, 1894, inclusive, were found to be complete enough to serve as a safe foundation for inferences, not without considerable practical value. They embrace 1,780 cases of malaria. These 1,780 cases were carefully analyzed with reference to their complications which were

noted in 189 instances or 10.7 per cent. The cases were found to be classified, as follows:

Intermittent fever (including quotidians, tertians, quartans, etc	1,434
Remittent fever	75
Malaria cachexia	27
Chronic malaria and irregular types	22
Unclassified	222
Total	1,780

Again, all instances in which an element of doubt was presented by the diagnosis were eliminated. In the majority of the cases the blood appearances were given.

But though the proportion of cases of malaria in which complications arise, is as great as in some of the other acute infective diseases, yet they are somewhat peculiar in character and, on the whole, not grave in nature, as may be observed by an inspection of the subjoined list, in which they are placed in the order of frequency of occurrence:

Heart disease:—Valvular heart disease	14
Valvular heart disease, comp. with albuminuria	4
Mitral regurgitation and congest. lungs	1
Mitral regurgitation—died	1
Dilatation of heart	1
Total	21
Enteritis:—Simple	16
Gastro-enteritis	3
Chronic	1
With albumin and granular casts	1
Total	21
Neuralgia:—Supra-orbital	11
Intercostal	2
Anterior crural nerve	1
With ptosis and left side corneal ulcer	1
Double sciatica	1
Gastralgia	1
Facial	1
Total	18
Albuminuria:—(Marked)	14
Pleurisy:—Simple (plastic)	10
With effusion	1
With nephritis	1
With heart failure	1
Total	13
Rheumatism:—Simple (articular)	10
Syphilitic (two with systolic murmur)	3
Total	13
Phthisis:—Chronic	7
Chronic incipient	4
With albuminuria	1
Total	12
Typhoid fever:—(Typho-malaria)	8
Edema:—With anemia	2
Of feet and legs	2
Of legs	1
Of legs with abscess	1
Of feet with enlargement lymphatic glands	1
Total	7
Pneumonia, lobar:—Simple	3
Double croupous—1 with fatty heart, died	2
Total	5
Pneumonia, catarrhal:—Simple	1
Jaundice:—Catarrhal	4
Catarrhal intense with melena	1
Total	5
Nephritis:—Simple	2
Chronic parenchymatous	1
Acute and pleurisy with effusion	1
Acute Bright's	1
Total	5
Anemia	4
Dysentery	4
Syphilis (1 tertiary)	3
Goitre (1 exophthalmic and enlarged inguinal glands)	3
Erysipelas	3
Gonorrhea	3
Ascites (1 with edema of feet)	2
Hepatitis (1 chronic)	2
Paraplegia	2
Constipation	2
Hemorrhoids and lithemia	1
Biluria	1
Dyspepsia (atonic)	1
Hematemesis	1
Mal. neuritis	1
Hepatic catarrh	1
Hystero-epilepsy	1
Epileptic convulsions	1
Saturnismus	1
Enlargement of thyroid glands	1
Enlarged lymphatic glands	1
Paralysis of bladder	1
Vertigo	1
Cerebral congestion with effusion into ventricles	1
Cervical adenitis	1
Follicular sore throat	1
Zoster femoralis	1
Abscess of groin	1
Phlegmasia albadolene	1
Epistaxis	1
Pericarditis	1
Hyperpyrexia	1
Toxemia	1
Cystitis	1
Typhlitis	1
Brachycardia (pulse 44 to 56)	1
Stricture	1
Alcoholism	1
Ague-cake spleen	1

Some of the conditions, which have been recorded as complications, should more properly be regarded as being symptomatic indications of the malarial process. These will, therefore, not receive further consideration at present writing. Again, some of the chronic affections which have been noted as complications such as chronic valvular diseases of the heart, pulmonary tuberculosis and nephritis were, in all probability, in many instances preëxisting affections, which most probably predisposed on account of their debilitating influence to malarial infection. *Per contra*, I entirely agree with the view expressed by the late Austin Flint, that there is reason to believe that malaria promotes the development of phthisis pulmonalis in those predisposed to it.

Among the most frequent complications stands neuralgia, of which there were eighteen instances (supra)[1] out of the sum total of cases, and eleven of these it may be seen involved the supra-orbital branch of the fifth nerve. In these investigations both pleurisy and rheumatism were found to be relatively frequent, complicating conditions, though each occurred in less than 1 per cent. of the cases. The literature of malaria contains but few allusions to the circumstance that pleurisy may arise in its course. Whittaker[2] states that malaria may simulate pleurisy and other diseases. I can not stop to consider the question whether or not the implication of the pleura, in cases of malaria, is dependent upon the primary

[1] Text-book of the Practice of Medicine, 957.
[2] Theory and Practice of Medicine, 957.

infection. I think it quite probable, however, that it is more frequently due to secondary infection, hence, it is to be looked upon as a genuine complication. I find no mention in medical literature of the fact that rheumatism is, comparatively speaking, a not uncommon concomitant of malarial toxemia, as is indicated by the present researches.

Upon the question, "Has pneumonia any special connection with malaria?" the opinion of the profession is divided. Physicians residing in the highly malarious districts of warm latitudes have been, since old times, and are still, describing a malarial form of pneumonia. To illustrate: J. P. Frances,[3] (Carencro, La.), in an article on "Malarial Pneumonia" states: "Malarial pneumonia has been very rife during this present spring, 1889. The severe type manifests itself first by several paroxysms of intermittent or remittent malarial fever. Pneumonia will then set in with slight rigors followed by headache, flushed face, soreness in the chest." . . . "Fever averages about 103½ to 104 degrees F. Examination of the chest reveals an alteration in the affected side; a bruit rougher than on the opposite side. A whole lobe is usually involved, beginning indifferently and in about equal proportion, either at the base or the apex.

"Frequently the crepitant râle is not dry at the end of the act of inspiration, and is often substituted by bronchitic respiration." . . .

"Percussion gives negative results or a slight alteration. Sputa vary from frothy mucus to pathognomonic ones of classical pneumonia.

"The paroxysm generally continues for thirty-six or more hours; the fever then abates or intermits and with it the chest troubles. Should the case be intermittent, a few scattered râles will be found by auscultation; in the remittent type the bronchitic respiration is ameliorated, and we have the redux râle." . . .

"After a couple of hours of respite, the paroxysm sets in anew, with chest symptoms much more severe, and remits once or twice again, after some thirty hours each, making the case last from the onset to the end of the attack, five or six days."

Frances further points out the fact that when cases end by death, little or no remission occurs after the second paroxysm, the condition merging into a typhoid state terminating in death. He also describes double malarial pneumonias, after which he continues: "I have seen a lady, multipara, with a double malarial cataleptic pneumonia. The chest and nervous symptoms increased and decreased with the febrile movement; she died on the seventh day. This case was of the remittent type, temperature 100 to 105 1-9 degrees F. Chances in double pneumonia are half and half; and with children about three to one."

Martin[4] reports a case of malaria complicated with pneumonia, which occurred in the Montreal General Hospital. In this case, which came to autopsy, the right lung was found to be in a state of gray hepatization, the organs all bile-stained, the spleen not enlarged. The patient was a male Indian (traveling with a circus), age 51, whose illness began with a severe rigor, lasting one hour, twelve days prior to admission (namely Oct. 23, 1892) attended with fever and great sweating. Subsequently, had daily recurring chills, followed by hot and sweating stages, till date of admission. Temperature on entering hospital (November 4) 105½, pulse 122, respiration 36. . . . No chills developed after entering hospital, but there was great prostration. The characteristic malarial symptoms now seemed to be conspicuous mainly by their absence. There was no herpes; no enlargement of the spleen or liver could be made out. The respiratory system presented the most prominent local symptoms. The sputum consisted of muco-pus.

Physical Signs.—For some time these were, for the most part, anything but typical. Thus the respirations were 24, costo-abdominal expansion of the chest good, tactile fremitus normal, percussion revealed no dullness. Auscultation: the breath sounds were harsh in both infra-clavicular regions, where, also a few moist râles were heard. Elsewhere no adventitious sounds; vocal resonance normal. Blood examination showed presence of plasmodium malariæ in various forms, especially the amœboid and free pigmented varieties.

On November 11, the temperature was 101½, respiration 20, pulse 88. Lungs examined but found negative. Two days later dullness appeared at base of right lung and crepitant râles with diminished breath sounds on auscultation. Great weakness and severe dyspnea with blood-tinged expectoration soon followed. The area of dullness increased; jaundice appeared, which grew quite intense. Examination for bacilli negative. The right lung now showed signs of consolidation from base up to the spine of the scapula. Death occurred November 18. (See result of autopsy, supra.)

One of the instances of pneumonia embraced in the above table of complications proved fatal. It occurred in the service of Dr. James H. Hutchinson at the Pennsylvania Hospital. The patient, a male, age 57, was admitted to the medical wards April 25, 1880. Had never been sick except during previous fall when he had ague lasting several days. Three days prior to admission he had diarrhea, fever and sweating, the following day a similar paroxysm. On the day of admission he had high fever about 6 A.M., followed by profuse sweating after he was admitted. At 4:26, fever this A.M., and sweating but comfortable; 4:27, sub-crepitant râles heard; 4:28, slightly more cough with frothy expectoration; 4:29, dull under the clavicle and posteriorly over lower part of right lung. The respiration bronchial. Vocal fremitus and resonance increased; 4:30, died at 8:30 o'lock A.M.

Post-mortem: rigor mortis firm. Old adhesion at right apex and diaphragm. Recent lymph at right base. Left lung fills pleural sac. Recent adhesions. Few bands of recent lymph in left side of pericardium. Heart contains 2 ounces cloudy serum. Both sides of heart relaxed. Right auricle filled with black clot. Firm chicken-fat clot in right ventricle. Left auricle contains chicken-fat clot extending into vessels. Mitral valve atheromatous; aortic valves thickened and fenestrated. Left ventricle wall thickened but softened. Weight 18 ounces. Left pleura contains some blood serum. Right lung, anteriorly, is crepitant and in places emphysematous. Border of lower lobe crepitates imperfectly. Section shows lower lobe to be in a stage of red hepatization; middle in later stage and upper presents a mixed appearance. Several old cheesy masses in apex, but one in middle lobe. Posterior part of left lung firmer than anterior. The latter is gray, firm and less elastic. Two lungs weigh six pounds. Spleen slightly larger. Fibrous tissue increased, dark-colored. Kidneys, left kid-

[3] The Times and Register, vol. XX, 1889, p. 345.

[4] Service of Dr. Stewart, Mont. Gen. Hospital, (Montreal Medical Journal, vol, XXI, p. 900).

ney large and irregular. Large cyst near pelvis, size of plum. Weight eight ounces. Deeply congested. Capsule slightly adherent; not thickened; leaves smooth surface. Right kidney small. Less congested, and on posterior surface there is a small doughy cyst and a small cyst on surface of larger one. Liver, gall-bladder filled with dark mucus and bile, borders rounded, dark-colored and firm. Surface somewhat homogenous. Weight, five pounds, four ounces.

In a fatal case of pernicious malaria under the care of Musser at the Philadelphia Hospital, the post-mortem records showed that there had been marked edema of the lungs, which had been supposed to have been the cause of death. No mention was made of the presence of the characteristic lesions of pneumonia.

D. E. English[5] in a paper on "Pulmonary Inflammation as a Complication of Malaria," contends: "Sometimes at the end of the first or the beginning of the second week of a case of remittent fever that has not responded well to the usual treatment, we find our patient with a little higher temperature, a little sharper pulse, a little quickening of the respiration, a very slight occasional cough, and just a suggestion of difficulty in breathing. A careful examination of the chest reveals one or more spots of beginning inflammation in the lungs. This patient does not have a true croupous pneumonia, but he does have an inflammation of lung tissue, occurring as a complication of remittent fever. In this connection, it should be pointed out, that all the instances of pneumonia that occurred in the present series of cases of malaria, arose in the course of intermittens.

The physical signs are similar to those of true croupous pneumonia, except that the dullness on percussion comes on more abruptly and is not so absolute as in true pneumonia, and probably because the air-cells are not so completely filled and the exudate is liquid. The subcrepitant râle can be heard and sometimes the sounds of a coarser bronchitis. As a rule, the sounds of fine bronchitis are heard only in the immediate neighborhood of the spot.

"The general symptoms of remittent fever, the temperature running higher than it otherwise would, and the remission not being so distinct as usual. The pulmonary inflammation subsides when the systematic disease has been brought under control."

He further states that "this complication may be mistaken for true croupous pneumonia, lobular pneumonia, capillary bronchitis, simple congestion of the lung and pulmonary edema."

Says Osler:[6] "A malarial pneumonia is described and is thought to be very prevalent in some parts of this country. Although I have seen during the past seven years several hundred cases of malaria, and am familiar with the bronchial troubles so commonly associated with it, I have yet to see an instance of pneumonia, which seemed in any way connected with paludism." Again,[7] he relates his personal experience with the combined occurrence of these two affections, as follows: "On two occasions in the Philadelphia Hospital I had an opportunity of seeing the development of pneumonia in convalescents from malaria, one of the quotidian, the other of the quartan type. They developed in a ward with several other cases of pneumonia, but the disease ran a perfectly normal course. In about four hundred cases of malaria, which have been under observation at the Johns Hopkins Hospital and Dispensary, bronchitis has been frequent as an early symptom, but we have seen no indication of any special form of inflammation of the lungs."

According to the present collective investigation, out of the aggregate number of cases of malaria analyzed—1,780—only 5 cases of lobar pneumonia and 1 of catarrhal pneumonia occurred. Thus, lobar pneumonia can not be regarded as being frequently in association with malaria, and yet that it is so, rarely, can not be denied, in view of the clinical and post-mortem evidence at our command. So far as can be ascertained from the notes of the cases, the symptoms presented were the same as those met with when pneumonia complicates other acute infective diseases, though the physical signs were, perhaps, less pronounced for two or three days after the onset. Further, the results obtained by these observations are entirely confirmatory of the view expressed by Osler (supra), when he affirms that pneumonia has no special relation to malaria. Now, while this is true as regards the occurrence of pneumonia secondary to malaria in Philadelphia and other temperate latitudes, it may be equally true that the severer forms of the disease, which occur in warm climates, truly invite invasion of the lung by the pneumococcus of Fraenkel.

A glance at the table of complications will show that, in six of these instances, typhoid fever was noted. That there is a class of cases in which both malaria and typhoid fever are met with in the same individual, simultaneously, can not be doubted. In view of the results, however, obtained by these researches, that relationship can not be close. Neither is the compound affection due to a third extraneous "compound agent," as was formerly believed, but to the effects of the two pathogenic organisms in one body at the same time. The hybrid occurs most frequently in the malarious regions of our Southern States. I hold that a careful blood examination in suspected typho-malarial fever would show many instances to be pure typhoid fever. The presence of chills and sweats and an intermittent temperature curve are sometimes observed in typhoid. Furthermore, when the temperature curve is of the intermittent type, from the beginning, the course of the affection is usually favorable. This fact tends to make clear the meaning of Woodward's statistics, which show "that the mortality of uncomplicated typhoid was far greater among the white and colored troops alike, during our late Civil War, than was the mortality of typho-malarial fever."

1603 Walnut Street.

DISCUSSION.

DR. ROCHESTER—This subject of the connection of malaria with other forms of disease is one of exceeding interest to us all. There is one thing I should like to ask the doctor. He speaks of the complication of malaria with pleurisy. I should like to know whether he has notes in the cases in which that occurrred and whether the majority occurred on the left side or not. Also, in pneumonia, he mentioned that one case was on the right side. I think there is some possible explanation offered for its occurrence on the left side in connection with the spleen. I am glad he spoke of the fact that true lobar pneumonia was so exceedingly rare in the malarial fevers, but that we did have very commonly a complication of the respiratory tract, principally confined to the bronchial tubes, with occasional true bron-

[5] Abstract of a paper read before the Orange Mountain Medical Society, August 14, 1891. Medical Record, March 11, 1893, p. 297.
[6] Practice of Medicine, p. 554.
[7] Loc cit. p. 146.

chial pneumonia or lobular pneumonia associated with it. It seems to me that careful discriminations should be made between what we call true lobar pneumonia and bronchopneumonia in all cases, a thing which is frequently overlooked when people speak of pneumonia. The complication of typhoid fever with malarial fever is of interest, and also the fact the Doctor has brought out, and which should be particularly emphasized, that we do have cases of typhoid fever in which the temperature remits, in which there is no malarial complication whatever. We should not describe a case of typhoid fever as malarial unless we actually find in the blood the plasmodium of malaria.

DR. HOLLISTER—In the early years of my medical practice I came directly in contact with more cases of malarial complications than all others combined, and among a class of people who had not been theretofore exposed to malarial influence and therefore in whom we could trace easily the depressing influences and constitutional effects of the presence of malaria. Universally it was found—although we knew nothing of the plasmodium of malaria—that one of the manifestations most marked in connection with these diseases was the destruction of the red blood corpuscles. The first summer I had no trouble with malaria, and my patients responded readily to the usual remedies. When in November and December I came to see these persons subjected to the low temperatures and to the other influences incident to the winter, I began to find a series of manifestations, which took the form very largely of an epidemic of congestion. This even took the form of cerebro-spinal meningitis, with fatal results. The second year, however, the manifestations were not upon the nervous centers, but more markedly they were pulmonary complications. Why in those two years the complications were so different in the same locality I can not say. The second year in almost every instance there were catarrhal manifestations, and then very rapidly a series of others in which there were infiltrations into the lungs. Large numbers of cases were fatal. Some of these cases were accompanied by pleuritis complication, but perhaps not more than 10 per cent. There were cases in which there was dullness, first posterior, and then extending gradually from the base and involving more and more of the respiratory tract areas, with fatal results in the manner I have indicated, and it had seemed to me that the inflammatory phenomena of that form of inflammation of the lungs were due to the great destruction of blood corpuscles and the enfeeblement of the body. If there are present any cocci or tubercle bacilli, they here met with the conditions most favorable for their development. In proportion as the blood was improved, resistance was more manifest, and favorable results could be obtained in the treatment. I have the impression that where the plasmodium is not present, you will not find any relation between malaria and tuberculosis. I am convinced that where the plasmodium of malaria and the tubercle bacillus are both present, either one will prepare the way for more serious manifestations on the part of the other.

DR. ANDERS—As to Dr. Rochester's question with reference to the relative frequency of the occurrence of pleurisy on the two sides, I can not reply in positive terms, as the cases were not studied with regard to this point, although I think this might have been done with great advantage. I may say that my recollection is very clear as to the variety—clinical and pathological—or that most of the instances were cases of plastic pleurisy, there having been only a few in which sero-fibrinous exudations occurred to any extent. Dr. Hollister made the point that season influences the character of the infection. I do not doubt that this is true, and more especially do I believe that the winter season predisposes a patient suffering from malaria to pulmonary complications in particular. If my recollection serves me, this was true of the cases which occurred in Philadelphia, so far as this complication was concerned. We must remember the fact, however, that both forms of pneumonia are on the whole much more frequent during the winter than the warm season of the year. He also made the statement based upon personal experience that the epidemic varied as regards the character of the complications. Now, in Philadelphia this disease does not occur in epidemic form, at least not to any extent among the cases that are admitted into the hospital. The statement made by Dr. Hollister, however, simply confirms a well-known fact with reference to all other acute infectious diseases, namely, that not only the type of the infection, but also the character of the complications, varies to a very great extent in different epidemics. I think I have shown clearly enough that typhoid fever and pneumonia do not bear any special relation to malaria. The fact was also forcibly brought out that pleurisy and rheumatism are, comparatively speaking, frequent complications of malarial infection. This is of interest from the fact that we do not find any reference to the connection either in our text-books or in the literature.

CONSTIPATION AND FAULTY ELIMINATION AS A FACTOR IN DISEASE.

Read in the Section on Practice of Medicine at the Forty-sixth Annual Meeting of the American Medical Association at Baltimore, Md., May 7-10, 1895.

BY FREDERIC S. THOMAS, M.D.

COUNCIL BLUFFS, IOWA.

The retention of fecal accumulations in the alimentary tract, and their discharge but once a day is an acquired habit. Primitive man, like other unrestrained animals, defecated more often.

The result of retaining within the body matter so poisonous, can not be other than prejudicial to health.

Man, the most perfect of animals, intellectually far in advance of all others, is nevertheless ignorant as to what food he should select. The result of this is imperfect digestion, constipation and faulty elimination. Each largely depends upon the other. Viewed from the standpoint of digestion, (intestinal,) let us briefly consider this important process.

We are told that "harmony of the secretions means normal cell selection, and normal cell selection means health." Any deviation from these relations means "cell disturbance, or disease."

The digestive changes in the small intestines may be summed up as follows: proteids are converted into peptones by pepsin and trypsin, because albumins are not readily absorbed by the circulatory and lymphatic systems.

We have also been taught that peptones can not exist in the blood as peptones, without poisonous effect, but must be converted back into their native albumins (proteids). The pepsin of the stomach begins the process of digestion. Trypsin of the pancreas completes it, carrying it a step further, producing leucin and tyrosin. Then comes absorption, etc. Thus, cane sugar is converted into grape sugar, by invertin from the crypts of Leiberkühn. Steapsin of the pancreas is the active agent in the emulsification of fats. The liver cells are called upon for bile to assist in their absorption. If we study intestinal digestion, we readily see the important function of the liver in the process, as well as the importance of a portal circulation which is unimpeded.

We are taught that "any interference with the pancreatic cells would interfere with the proper solution of proteids into peptones, and the formation of leucin and tyrosin. A modified product of digestion would be taken to the liver, and the liver cells could not convert them properly into urea." Interference with the action of the liver cells would produce autoinfection, and its symptom would be non-elimination.

What would be the effect upon the normal cell activity, in the process of intestinal digestion, of blocking up the lower end of the tube (the bowels)? Would we not have modified cell activity, and would not materials that were poisonous be crowded into the circulation; and if in sufficient quantities, would not this produce death?

When ptomaines, leucomaines, ferments and chemic derivatives of digestion are considered, we see how

important cell selection becomes in the normal functional activities.

Since our profession have been so assiduously studying the microörganisms which are about us, upon the supposition that our diseases come from without, we have forgotten that the microörganisms which dwell within, whose names are legion, are being neglected.

How important it is, therefore, to prevent accumulations of effete materials within the intestinal tract. Brunton attributes the "depression, lassitude and dullness after a full meal, in the full-fed, inactive man, to peptones in the blood." Ought we not likewise to attribute many forms of disease to constipation and the faulty elimination of poisonous material from the alimentary canal?

Our food consists of proteids, carbohydrates, hydrocarbons, salts, and water. In their preparation in the alimentary tract before absorption, certain chemic changes take place. This requires normal functionation, or especial selective acts. If all alimentary substances were taken up by the blood, death would undoubtedly ensue. Hence the importance of normal cell selection during secretion, absorption or elimination. Poisonous substances are formed, which, if retained in the tissues, would become a source of infection. The cells would poison themselves by the products of their own metabolism.

Should the pancreas fail, in its cell selection, to produce trypsin from the blood by reason of any interference, a modified product of digestion would be taken to the liver. Urea would appear in the circulation, and symptoms would arise, which, if not eliminated, would be followed by dangerous results.

Bouchard informs us that sufficient poisonous matters are formed in the intestines every day to produce death should they be absorbed into the circulation.

Many of the so-called "diseases of the nervous system," arise solely from auto-infection, and require nothing but corrected digestion and proper elimination. Thus many febrile diseases during the months of autumn become grave only because of retained fecal infection.

We can truthfully say, therefore, that constipation and faulty elimination are important factors in disease.

CIRRHOSIS OF THE LIVER.

CLINICAL AND PATHOLOGICAL DIFFERENTIAL DIAGNOSIS, WITH CASE.

Read before the Chicago Pathological Society, Feb. 11, 1895.

BY ARTHUR R. EDWARDS, A.M., M.D.

PATHOLOGIST AND PHYSICIAN TO COOK COUNTY HOSPITAL; INSTRUCTOR IN MEDICINE AND PHYSICAL DIAGNOSIS NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.

CHICAGO, ILL.

Patient was a Norwegian, married, 48 years old and a laborer. Under observation thirty-four days. Previous diseases: measles, colds, pneumonia four years ago. Family history negative. Personal history: in Chicago twenty-three years; married twenty-two years; three healthy children; smokes and chews; drinks moderately; venereal history denied. Present disease: ill for three weeks beginning with pain in epigastrium and hypochondria, which is at times absent, now dull, now shooting into both shoulders; dizziness on walking; weakness with pain in lumbar regions; no pain on inspiration; has not vomited; no hematemesis; eats less frequently because of pain produced in epigastrium; during past month has emaciated rapidly; bowels regular; appetite good; never jaundiced; occasional eructations of gas; coughs a little in the morning.

Physical examination: considerable emaciation; muscles flabby; mind clear; eyes negative; tongue clean; mouth negative; lungs negative. Heart: systolic blowing, apical murmur, diagnosed accidental. No marked atheroma. Pulse somewhat quick but rhythmic; frequency varies from 80 to 104. The morning temperature averaged 99 degrees, the evening 101 degrees, preserving this type with fair constancy. Four evening elevations of 101.8, 102, 102.2, and 102.2 were observed. Urine negative; not bile stained. Feces normally pigmented. Stools irregular in frequency, constipation alternating with slight diarrhea. Nervous system negative.

The liver conformed to the normal contour above, moving freely on respiration; it extended three inches below the usual inferior limit, the enlargement being symmetrical. The edge, not readily palpable because of tenderness, seemed even. The hepatic tenderness and epigastric pain were constant. There was no conspicuous tympany. The splenic dullness was always uncertain, as the organ was never palpated and constipation was frequent. Lastly, the skin of the patient was dry and muddy, and his appearance cachectic. No icterus was observed. Neither hydrochloric nor lactic acid was present in the gastric juice.

The blood count gave 4,104,000 red blood corpuscles, and the red corpuscles sustained to the whites a ratio of 1 to 174. Later counts showed gradual reduction in the number of red corpuscles to 3,800,000, while the leucocytes were to the erythrocytes as 1 to 125.

The patient for several days prior to death was delirious and vomited. The treatment was directed chiefly to his cough and nausea. Antisyphilitic treatment was given. The diagnosis would have been Laennec's cirrhosis in the first stage, had there been collateral circulation, a caput medusæ, ascites, splenic tumor or any gastro-intestinal hemorrhage. Hypertrophic cirrhosis was considered but rejected because no spleen could be found and icterus was absent, although that form of biliary cirrhosis, known among French authors as hypertrophic cirrhosis without icterus, was thought of and discussed in the clinical conferences. The rapid emaciation suggested neoplasm and the leucocytosis looked toward some suppurating focus, although no confirming facts were established.

The autopsy showed little outside of the liver. The aorta and the peripheral vessels were atheromatous. Heart negative; lungs, marginal emphysema, few adhesions and ancient healed tubercular foci. The liver weighed 2,730 gm; there were a few perihepatitic adhesions; the organ measured 29 x 19 x 20 x 8.5 x 5.5 cm. The capsule was here and there thickened, but the edges and surface were perfectly smooth. On section the lobules appeared quite large, some measuring 1 cm. across. The color was mottled yellow and red. The organ was firm and had a waxy appearance simulating amyloid. The spleen weighed 420 gm. and measured 15 x 12 x 6 cm. The kidneys weighed 530 gm., and measured 14 x 8 x 4 cm. The capsule peeled very readily, and the markings were fairly distinct. The cut surface was dark and very vascular, the kidney of passive congestion. On microscopic exam-

ination is found an increase in the inter- and intralobular connective tissue of the liver. Round cells are found in every part of the lobule and in some places the lobule is wholly replaced by them. The liver cells are now larger than normal, now atrophic, never fatty nor pigmented. The bile ducts are increased. Occasionally a very large lobule is found.

The most interesting pathologic feature in this case is the status of the cirrhosis, whether it is the first stage of a Laennec's cirrhosis, an hypertrophic alcoholic cirrhosis, a biliary cirrhosis or a mixed cirrhosis. It is certainly not a typical Laennec's cirrhosis.

A consideration of the possibility that the vulgar hepatic cirrhosis may be preceded by hypertrophy, is pre-requisite. Todd[1] claims that there is never preliminary enlargement in Laennec's cirrhosis and he was unable to find in literature a reliable instance of a hypertrophic passing into an atrophic cirrhosis. Stricker (Traube's clinic) observed livers shrink to half their former length in one month. Therefore subacute and acute hepatitis must be excluded. Rosenstein[2] and Labadie Lagrave[3] agree with Todd. Bright,[4] Budd,[5] Saunders and Frerichs[6] have said that contraction is occasionally antedated by a stage of enlargement. Murchison's[7] experience taught that in a considerable proportion of cases of cirrhosis, the liver is still very much enlarged, often from fat, after symptoms of portal obstruction have set in and that patients often die in this stage with jaundice, hemorrhage and symptoms of blood poisoning. Leudet,[8] from a pathologic standpoint comes to the conclusion that increase in liver volume is not always an index of a recent lesion, of an acute process or a curable one. Murchison says it is questionable whether such livers would shrink if the patient lived longer, yet he states that increase and decrease in liver volume are probably different stages of the same process. Ollivier[9] believed that cirrhotic atrophy and cirrhotic hypertrophy were different states. Gilbert and Hanot believe in the preliminary enlargement of cirrhosis atrophica. Semmola and Klebs have studied the disease in its incipiency and found that the organ is firm, smooth and dark, with dilated portal radicles and periportal extravasation of round cells (Tissier). Keussner[10] Rokitansky, Stadelmann,[11] Litten,[12] Schapiro,[13] Mangelsdorf,[14] Niemeyer,[15] Stricker, Strümpell,[16] Hamilton,[17] Orth and Zeigler describe enlargement antecedent to atrophy. Bamberger[18] considers the decrease in size of an enlarged liver almost pathognomonic for atrophic cirrhosis. Rosenstein applies two tests, palpation of the liver's edge, continued clinical observation and necropsy—ascites, obstipation or tympany render percussion most uncertain. With these criteria Rosenstein has never seen atrophy following hypertrophy.

Definition of term "hypertrophic." — Hamilton[17] takes exception to the term "hypertrophy," arguing that an enlarged liver may be very atrophic. Liebermeister considers that the terms, "biliary" and "hypertrophic" are not identical, nor are venous and atrophic cirrhoses one. The portal vein form usually shrinks and the biliary form usually enlarges, but exceptions occur as, 1, portal vein forms remaining large till death; or 2, biliary types atrophying to a certain degree.

Most writers, *e. g.*, Strümpell, regard "biliary" and "hypertrophic" as synonymous, and "venous" and "atrophic" as the same. The hypertrophic alcoholic cirrhosis of Hanot and Gilbert[18] is characterized by edges less sharp than normal; red or brown color; surface furrowed by uneven areas, varying in size, the unevenness being less than in the atrophic form; by granulations on the surface; by enlarged spleen, ascites, collateral circulation, etc. They assert there are many transitional forms between it and the atrophic alcoholic cirrhosis, so that great importance does not attach to size alone. Recovery occurs in this more than in any other form.

Laennec seems to have known but one type of cirrhosis. Hanot, supported by Hayem, Cornil and Charcot, insisted even more than did Todd upon the divorce of hypertrophic and atrophic cirrhoses. This separation of the two forms is the constant theme of the French school, but they do not seem concerned as to whether an enlarged liver may become small.

Cornil[19] was the first to discover in the hypertrophic form, a very rich network of bile vessels and upon this Hanot based his clinical division of cirrhoses into, 1, the venous; and 2, the biliary. Litten and Mangelsdorf sought to show that biliary was but the first stage of the vulgar cirrhosis plus icterus. In Germany, the different cirrhoses are largely held to be mere variations of a single fundamental cirrhosis. Stadelmann[11] voices this opinion when he can not find a difference between the two forms for the following reasons: 1, there is a hypertrophic cirrhosis without icterus; 2, hypertrophic cirrhosis can later atrophy; 3, icterus can be very marked in Laennec's cirrhosis.

Rosenstein suggests three classes of cirrhosis: 1, the genuine contracted liver; the cirrhosis of Laennec, an analogue of the genuine contracted kidney.

2. The hypertrophic icteric cirrhosis, an analogue of the parenchymatous nephritis.

3. The hypertrophic mixed form, in which hypertrophy and atrophy combine, an analogue of the secondarily contracted kidney.

Ackermann distinguishes an atrophic cirrhosis (Laennec's) in which the cells die first and are replaced by connective tissue. According to him, Laennec's cirrhosis and one variety of large cirrhotic liver are the same, for in certain livers some parts are atrophic and others again are hypertrophic. Ackermann admits the identity of the French hypertrophic variety which has, he states, nothing in common with the atrophic cirrhosis except the connective tissue proliferation. It is apparently a primary connective tissue hypertrophy with consequent atrophy of liver cells, a hypertrophy occurring *around* the interacinous blood vessels, *never* leading to characteristic granulations, producing *moderate or no stasis, i.e., scanty ascites* and *insignificant* splenic tumor, and occurring also in horses, fowls and cattle, while the atrophic is seen in man only. The difference between this form and Charcot's description is obvious.

Charcot drew such sharp lines between the different forms that, as Rosenstein has said, one would conclude that a glance through the microscope would readily differentiate them. Charcot described:

1. *Cirrhose d'origine biliare.*
2. *Cirrhose d'origine veineuse.*
3. *Cirrhose monocellulaire*, characterized by the presence of connective between individual cells within the lobule, seen especially in hereditary syphilis.

The French school postulates the following differentia between the two types of cirrhosis: in the

venous variety, the connective tissue and inflammation extend around several lobules, sending in connective tissue processes late, if at all, into the lobule, hence a peripylephlebitis; in the biliary type, the connective tissue begins *in* the lobule, around the smaller bile radicles, with increase in the biliary vessels, hence a primary angiocholitis or periangiocholitis. In the venous form, the connective tissue exerts compression upon the lobule *en masse*, hence called cirrhose multilobulaire s. annulaire; in biliary cirrhosis, the compression is *in* the lobule, hence denominated cirrhose insulaire s. monolobulaire. In the vulgar cirrhosis the process is extralobular; in biliary, it is extra- and intralobular. In the venous or portal type, the liver is small, ascites is present, there is no icterus and the liver cells are degenerated; in the biliary form, the liver is large, ascites and other expressions of stasis are absent, icterus is the cardinal symptom and the liver cells are intact, a pathognomonic criterion.

To my mind the differential diagnosis demands elucidation of the following points: 1, distribution of the connective tissue; 2, status of the bile ducts; 3, character of the new-formed connective tissue; 4, condition of the liver cells; 5, blood vessels; 6, size of the liver; 7, bile stasis; 8, venous stasis; 9, classification.

1. *Distribution of Connective Tissue.*—This point is the most confusing of any connected with the differential pathology. Rosenstein rejects Charcot's and Hanot's terms, "intra- and extralobular," "multi- and monolobular," and asserts that there is no cirrhosis in which there are not now some small lobules surrounded by connective tissue and again many acini surrounded by connective tissue. Both distributions may occur in a single liver. In the annular and insular forms Rosenstein finds an actual histologic differential point, and the concentric ensnaring of smaller or larger groups of lobules in typical cases of Laennec's cirrhosis are to him and Ackermann truly distinctive. In typical hypertrophic cirrhosis, the connective tissue sends out processes into and around the lobules, now surrounding an entire lobule, now only certain cell groups. Rosenstein, Kelsch and Wannebroecq certainly overdraw the situation in saying that nearly all cirrhoses are mixed types (Type mixte. of Dieulafoy[20] and Guiter.[21] See also references [22, 23, 24]). Orth[25] refuses to divide cirrhosis into different types upon the distribution of connective tissue in regard to the lobule. When said tissue seems to surround lobules, the appearance is usually accidental. The same liver may show multilobular islets, large and small monolobular islets. Regarding the relation between parenchyma and interstitium, the same specimen may show here a sharp distinction and elsewhere the connective tissue running into the lobules. Orth regards all cirrhosis as essentially the same process. Hamilton also thinks Charcot's and Gombault's views extreme.

Brieger[26] and Sabourin[27] affirm that the connective tissue begins in the hepatic vein zone. French authors find the connective tissue around the bile vessels, the veins being involved later and to a less extent. Hamilton says the secondary connective tissue bands into the lobule are more numerous in biliary than in atrophic cirrhosis.

2. *The Bile Ducts.*—In general, the French authors describe a hyperplasia of the biliary passages in biliary cirrhosis. Brieger finds in every circumscript connective tissue formation in the liver an increase in the bile vessels, in tuberculosis, carcinoma, adenoma, gregarinæ, distomata, and even in corset liver. Rosenstein states that he has found them (perhaps by accident) more frequently in atrophic than in biliary cirrhosis and can not, therefore, consider them pathognomonic of biliary cirrhosis; also that they sustain no causal relation to icterus. The ducts are described as filled with degenerated and desquamated epithelium and less frequently with pigment masses. Rosenstein affirms the existence of this condition in the hypertrophic cirrhosis without icterus. Ackermann[28] thinks the new formed bile vessels communicate with the smallest biliary vessels on the one hand, and with the main duct on the other, and gives as proof the results of artificial phosphorous cirrhosis. Orth considers the canal system as due, chiefly at least, to atrophic liver cells arranged in rows, although he admits they may in part be neoplastic. They can be infected from the biliary system and are absent in no type of cirrhosis. (Also the view of Kelsch, Kiener, Sabourin.)

Friedländer[29] was the first to discover this reversion of atrophic liver cells to their embryonal duct-like condition. The ducts disappear where the connective tissue is densest. According to Price[30] the ducts are of two kinds: 1, true bile ducts; 2, duct-like structures continuous with and imbedded in large tracts of fibro-nucleated tissue, being transformed into fibrous tissue. Small nodules on the surface are occasionally due to biliary polyadenomata.[31] Ziegler describes a bile vessel proliferation in all cirrhoses.

Character of the new-formed Connective Tissue.—Ackermann calls attention to the fact that the new-formed connective tissue in biliary cirrhosis remains uncontracted, hence the names elephantiasis hepatis (Eichhorst) and L'hypermégalie (Schachmann). In atrophic cirrhosis it is fibrous; in hypertrophic, embryonal in character (Rosenstein). Stadelmann remarks that the biliary cirrhotic liver never contracts. Orth admits that a biliary form exists, characterized by its clinical course and lack of atrophy, with the qualifying phrase that the future only can assign to biliary cirrhosis its exact status. Strümpell thinks the lack of contraction has been overestimated and that the organ would contract, were life protracted. Hamilton describes the connective tissue bands as finer in hypertrophic than in atrophic cirrhosis.

4. *Condition of the Liver Cells.*—That the liver cells preserve their form is characteristic of biliary cirrhosis. They are at most flattened only at the periphery of the lobule and may disappear. Fatty infiltration and necrosis is said to be very rare. The nuclei are preserved. The cells are sometimes pigmented or atrophied but often both cell and nucleus hypertrophy and divide. In Laennec's form the cells are often degenerated, very frequently fatty, now in the center, now in the periphery of the lobule. Hamilton says fatty degeneration is rare even in Laennec's cirrhosis, while fatty infiltration and hypertrophy occur.

5. *Condition of the Blood Vessels.*—The interlobular blood vessels in the portal cirrhosis are diseased, while free in the biliary type (Rosenstein). Ackermann's view has already been quoted (v. s.). The integrity of the hepatic or sublobular system is, according to Jaccoud,[32] quite exceptional.

6. *Bile Stasis (Icterus).*—Icterus dominates the clinical picture in the biliary variety. Most author-

ities admit that jaundice occurs more frequently in biliary cirrhosis, although it may be absent.[33] Howard found icterus in 70 per cent. of hypertrophic and 71 per cent. in atrophic cirrhosis. Mangelsdorf found icterus in thirty-eight out of forty-nine cases of hypertrophic cirrhosis. Fogge (quoted by Charcot) found it in 25 per cent. of atrophic cirrhosis (130 cases) and Rosenstein in 15 per cent. Icterus is absent in the cirrhose hypertrophique graisseuse (Sabourin). In Laennec's cirrhosis, it is incomplete, caused by compression of bile ducts by contracting connective tissue. Its frequency is variously given; seldom (Murchison, Oppolzer and Charcot); frequent (Bamberger, Leyden, Fürbringer); necessary to the diagnosis (Leyden[34]); slight in degree (Frerichs, Keussner); coming on before severe symptoms (Bright). In hypertrophic biliary cirrhosis some consider the icterus due to polycholia. (Rosenstein, Labadie Lagrave).

In atrophic cirrhosis, jaundice is a genuine complication, due to catarrh, glands, or a diffuse cirrhotic process (Andral, Clin. Med., II), yet few pass through the disease without a muddy yellow areola under the eyes. In hypertrophic cirrhosis the stools remain yellow, an important point (Fürbringer, S. 121 ref. 2), yet sometimes they are acholic (Liebermeister 2). Stadelmann believes many of Charcot's cases of biliary cirrhosis were only instances of retention icterus (from calculi, cicatrices, etc.). Rosenstein has observed catarrhal icterus lasting between one and two years and has seen three cases of amyloid with icterus. In biliary cirrhosis the icterus varies directly with the fever curve and the size of the liver (Jaccoud).

7. *Venous Stasis*—is absent or inconsiderable in biliary cirrhosis, being terminal or complicating. It is present in the mixed forms (biliary plus venous). In advanced cases of atrophic cirrhosis, ascites is rarely absent, yet the patient may die before ascites develops, *e. g.*, from hemorrhage, for hemorrhage is dangerous when there is no ascites (Leyden). An extensive though slowly developing collateral circulation may permanently relieve ascites. Ascites is no infallible sequence of atrophic cirrhosis (Lecorché, Hanot). It may disappear after hemorrhage (Fauvel), diarrhea (Linas) or carcinoma of esophagus (Lecorché, Telamon). It usually antedates edema of the legs, although anasarca may appear first from: 1, renal or cardiac complications; 2, compression of inferior vena cava; 3, perihepatitis involving cava; 4, cachexia: 5, thrombosis of iliac veins. Splenic tumor is seen in both forms. Atrophic cirrhosis is accompanied by mechanical gastro-intestinal stasis with hypostatic hemorrhage. In biliary cirrhosis, hemorrhage in other situations, *e. g.*, epistaxis, is more frequent. Fürbringer has, however, observed in biliary cirrhosis, hemorrhagic gastritis and enteritis. The metabolic disturbances are the same in both forms, except that alimentary glycosuria is more frequent in the atrophic. In Laennec's type, constipation is the rule; in biliary, diarrhea. In both, dilatation of the right ventricle, leucocytosis, remittent or intermittent temperature occur. Tubercular peritonitis and granular kidneys are common in the atrophic form, while rare in the biliary. In biliary cirrhosis, albuminuria is infrequent while a high pulse rate and a terminal cholemic condition are usual.

CLASSIFICATION.

I suggest the following classification, less as an arbitrary or infallible scheme than as an attempted tentative reconciliation of conflicting clinical and pathological data awaiting stricter future analysis:

- Cirrhosis hepatis.
  - I. Capsular.
    - *a.* Chronic perihepatitis.
    - *b.* Portal vein syphilis.
  - II. Vascular
    - *a.* Hepatic vein.
      - 1. Stasis cirrhosis (cyanotic induration).
      - 2. Cirrhosis (in Laennec's cirrhosis also, Brieger and Sabourin).
    - *b.* Portal vein.
      - 1. Laennec's cirrhosis or atrophic cirrhosis.
        - 1st Stage. Pseudo-hypertrophy.
        - 2d Stage. Atrophy.
      - 2. Hypertrophic alcoholic cirrhosis, like Laennec's, only remaining large.
  - III. Biliary.
    - *a.* Obstruction—"Retentions-icterus" and cirrhosis.
    - *b.* Biliary or hypertrophic, in French sense. Hanot's cirrhosis.
      - 1. With icterus.
      - 2. Without icterus.
  - IV. Mixed. (Vascular and biliary cirrhosis.)

BIBLIOGRAPHY.

1 Todd: Clinical Lectures on Urinary Disease and Dropsy, 1859, p 113; Med. Times and Gaz., 1857, p. 591.
2 Rosenstein: Verbandbungen L. Congress für Innere Medicine, 1892, Bd. XI, p. 65.
3 Labadie Lagrave: Maladies du bois, p. 557.
4 Bright: Guy's Hosp. Rep., 1st Ser.. Vol. I, p. 612.
5 Budd: Diseases of the Liver.
6 Frerich's: Klinik der Leberkrankheiten.
7 Murchison: Diseases of the Liver, 1885, p. 145.
8 Leudet: Clin. Méd., Paris 1874, p. 541.
9 Ollivier: L'Union Méd., Sept., 1871, pp. 361, 400, 449.
10 Keussner: Volkmann's Klin Vorträge, 141, s. 1192.
11 Stadelmann: Verhandl. d. Congress f. Inn. Med., 1892, s. 90.
12 Litten: Charité Annalen, 1880, s. 173.
13 Schapiro: St. Petersburg, Med., March, 1891.
14 Mangelsdorf: Deut. Arch. f. Klin. Med., Bd. 31, s. 578.
15 Niemeyer: Handb. d. Spec. Path. u. Therap., p. 787.
16 Strümpell: Handb. d. Spec. Path. u. Therap.
17 Hamilton: Text-book Pathology, Vol. II, pt. 1, p. 216.
18 Hanot et Gilbert: De la cirrh. atroph. hepat., Soc Méd. des Hôpit., Mai 23, 1890.
19 Cornil: Archiv. de Physiologie, 1875, p. 265.
20 Dieulafoy: Gaz. hebdomadaire, Sept.-Oct., 1881, Nos. 39, 40, 41 and 43.
21 Guiter: De cirrhoses mixtes, Paris, 1881.
22 Sacharjin: Klinische Vorträge. Bd. III, Fall 7 and 8 (Russian).
23 Goluboff: Zeitsch. f. Klin. Med., Bd. XXIV, H. 3-4, s. 350.
24 Jakowleff: Deut. Med., March, 1894, s. 851.
25 Orth: Handb. der Spec. Pathologie.
26 Brieger: Arch. f. Path. Anat. LXXV, 1879, p. 94.
27 Sabourin: Rev. de Med., 1882 and 1883.
28 Wegner: Virch, Archiv., 55, p. 11, 1872.
29 Friedländer: Ueber Epithelwucherung und Krebs, 1877.
30 Price: Guy's Hosp. Report., XLII, 1884, p. 313.
31 Sabourin: La Glande biliaire, 1888.
32 Jaccoud: Lecons de Clin. Méd., Paris, 1885, p. 103.
33 Hayem: Arch. de Physiol. Normale et Patholog., 1874.
34 Leyden; Beiträge zur Pathol. d. Icterus, Berlin, 1866.

HYPERTROPHIC CIRRHOSIS OF THE LIVER WITH JAUNDICE.

Read before the Chicago Pathological Society, Feb. 11, 1895.

BY T. J. WILLIAMS, M.D.

HOUSE PHYSICIAN COOK COUNTY HOSPITAL, CHICAGO.

The patient who died of this affection at the County Hospital last January, was a white woman of Irish extraction, 40 years old, married, having several living healthy children, and an exceptionally good family history. She had malaria and rheumatism several years ago but neither of these confined her to her bed, and she considered that she had had unusually good health up to one year before she came into the hospital, when she first noticed a dull heavy pain in her right side, about the border of her ribs, and became jaundiced. But all the symptoms of this attack passed away without any treatment, and she felt fairly well except for occasional vomiting spells, until toward the end of November, when she was again attacked with the same dull pain in the region of the liver and became yellow.

December 21, she came to the hospital and stated that she had been sick for five weeks; she complained of pain and tenderness in her right side, but was most concerned about the yellowness of her skin and a tumor of which she had lately become conscious in

her abdomen. Her temperature on admission was 100.8, her pulse 106 and respiration 32. She did not appear to be very sick. She was extremely stout and apparently suffered no pain. She recited her history intelligently, appeared to have been a virtuous woman not addicted to drink, and free from any venereal history. Her skin and conjunctiva were yellow, at first not very marked, but became extremely so toward the end—otherwise her skin and eyes were negative, but she complained as she grew worse that her sight was getting poor, and some time before death had diplopia. Her breathing was accelerated and shallow; her pulse weak, and rather rapid, but neither lungs nor heart gave any other sign of disease. Her abdomen was very prominent but symmetrical. The tumor of which she complained was easily palpable. Its smooth, rather sharp edge, could be felt in the median line running down into the right iliac region. Slight pressure upon it caused pain. Owing to intestinal tympany, and a very thick layer of fat overlying it, the spleen could not be palpated or percussed. No fluid could be shown to be in the peritoneal cavity, and there were no enlarged abdominal veins although there was some edema of lower limbs. She gave no history of any pelvic trouble except profuse menses during last two periods before admission and there was no tenderness over the pelvic viscera. As the jaundice deepened, she complained of a "dead feeling" in her arms and legs which became very weak, and later, she had "drop wrist" of both arms and complete paralysis of lower limbs. Her intellect became dulled. She was occasionally delirious, but control of the bladder and rectum was retained to the end. There was at no time any gastric disturbance; she retained her food and medicine well, but her bowels were extremely constipated and would not respond to any but strong cathartics. Her urine at no time contained any albumin or sugar. It was generally of a low specific gravity, acid reaction, dark color, and gave a marked biliary reaction. Her pulse was not at any time slow, generally between 90 and 110. Her temperature varied between 98 and 102 until immediately before death it went to 103.4. For about forty-eight hours before death she was stupid and semi-comatose and died four hours after the onset of deep coma.

A post-mortem examination of the body was made twenty-four hours after death occurred. There were no scars, eruptions or ecchymosa on the body but the skin was intensely yellow. There had been no emaciation. The abdominal wall contained 32 cm. of fat at the umbilicus. There was no fluid in either pericardial or pleural cavities. The heart was covered almost everywhere with fat. It was empty, weighed 550 gms., and was so flaccid that when held by the great vessels, with its base upward, it fell like a mushroom over one's fist. There was neither incompetency nor stenosis of any value. The cavities of the heart and the thickness of its walls, were of normal dimensions. The aorta at its beginning had a few soft, small, whitish-yellow atheromatous patches—but nowhere else was there found any arterial degeneration. Both lungs were negative, except that considerable blood and mucus could be expressed out of the lower lobes on both sides, but sections of these would crepitate and float. The pleural cavity on the right, contained many firm adhesions while there were a few stringy bands also on the left. The peritoneal cavity contained a few ounces of fatty serous fluid.

Pushing them aside the intestines disclosed the right lobe of the liver running from the crest of the ilium with its left edge in the median line and reaching the lower border of the third rib above. While the left lobe reached about 2½ cm., below and to the left of the tip of the sternum, and was adherent to the spleen, the hypertrophy was seen to be mainly in the right lobe. The common bile duct was patent. The gall bladder was of ordinary size but rather thick, and contained some thick, syrupy brownish-yellow liquid which could be expressed into the duodenum with very slight pressure. The liver weighed 4,150 gms., its right lobe measured 33 cm., from above downward, 23 cm. laterally, and was 18 cm. thick. Its surface was smooth, mottled, brownish-red and light yellow. On anterior part of right lobe was a thickening of the capsule indicated by a small whitish area with white lines radiating short distances from it. A cut section appeared yellow, being deeply bile stained; its surface felt rough; the lobules could be distinguished only by a slight elevation of their border. The spleen was adherent to the stomach, diaphragm and left lobe of the liver. The capsule was torn in an effort to detach it and its pulp substance, was so diffluent, while the trabeculæ were extremely friable, that its contents escaped into the peritoneal cavity. The spleen reached about two inches below the costal arch, and up to the upper border of fifth rib. Both kidneys were enlarged. The capsule of each peeled readily, leaving a smooth surface. The cortical markings were indistinct in each, while the pyramids were dark in contrast to the somewhat pale cortex. They were bile stained like all the other visceral organs and weighed together 560 gms.

The pelvic organs were matted together by old adhesions into one solid mass; the left Fallopian tube, which had extremely thick walls, contained a few drops of inspissated whitish pus. The meninges were negative, as was also the surface of the brain which was not dissected. Nothing abnormal was found in the alimentary tract. Sections of the liver hardened and stained with hematoxylin and eosin and examined microscopically show that the lobular outlines are indistinct, and that while there is some increase of interlobular connective tissue it is not nearly as marked as in any ordinary form of atrophic cirrhosis. There is marked increase of this tissue within the lobules. In some it runs at right angles to the periphery from the center, disposing the cells radiating in rows from the center; in others it is arranged in circles, so that the cells are arranged in layers concentric to the periphery, at the outer parts of the lobule. This latter distribution seems more common than the former. In a few lobules the connective tissue is irregularly distributed so that they are made up of isolated groups of cells. With a 1½ inch oil immersion objective this connective tissue is seen to be made up of a highly refractive, hyalin-appearing substance containing a few spindle-shaped nuclei and, as a rule, stains well with eosin. This connective tissue is best seen in areas where marked fatty degeneration has taken place. Here it is almost transparent and does not take eosin well. The cells of Kuppfer, marking the position of the blood capillaries, are infrequent.

The most marked increase of connective tissue is seen where sections of bile ducts are obtained. Here there are broad bands that stain well with eosin, and

contain many spindle cells with long pointed ends. The bile-duct epithelium stains very deeply everywhere. There seems to be an excess of bile ducts only in a few places. The increase in connective tissue is more marked around the ducts than around the hepatic or portal veins, and it is more hyalin in character around the ducts.

The liver cells show marked signs of two kinds of degeneration, a fatty and a hyalin degeneration. The first should perhaps be called a fatty infiltration, because in the cells which are occupied by the holes left after the fat had been dissolved out, the nucleus remains well stained in the periphery, while the circular vacuole is partially surrounded by a narrow rim of cell protoplasm. This fatty infiltration affects all the lobules, more or less, and is so marked in some places that but a few cells are left.

Where the hyalin degeneration occurs, the cells stain very poorly even with eosin, the nucleus appears faint or not at all. There is no nuclear pigmentation. Some of the cells contain a golden yellow pigment, which appears a yellowish brown where the granules are large. Some lobules are occupied entirely by this degeneration, while in other lobules it is mixed with the fatty infiltration. It is everywhere most marked in the periphery of the lobules. In places this degeneration appears to have been caused by deposition of pigment; in other places it seems to be due to the fine connective tissue network which isolates groups of cells from the rest of the lobule.

The liver cells which stain well often possess two nuclei. In some, these lie close together upon the same plane, but no connecting bands indicating karyokinesis can be made out. While some of the cells appear larger than normal, no measurements have been made. Some areas are seen which show hemorrhage, but they are small and infrequent and resemble spots of red atrophy. In still other places, there are spots of leucocytosis. This occurs usually in areas of marked degeneration where liver cells have entirely disappeared, leaving only a network.

The microscopic examination was made in the laboratory of Rush Medical College, under the direction of Mr. E. R. Le Count, to whom I am indebted for valuable aid.

DISCUSSION.

DR. E. R. LE COUNT—I was very much interested in Dr. Edwards' paper in which he gives the views of the various authorities upon different forms of cirrhosis, and we know there is a great conflict of opinion in regard to this matter. The opinion of Rosenstein, which he mentions as having been advanced in the Congress of Internal Medicine, held at Leipsic, in 1892, of dividing cirrhosis into the atrophic form, the hypertrophic form with icterus, and the hypertrophic form without icterus, in which the latter is associated with the formation of connective tissue atrophy, is the most rational division that can be made. The liver is possessed of a great degree of power to regenerate itself, and experimental investigations upon animals have shown that this power is possessed by it to such an extent that an entire lobe may be regenerated. It is this property of regeneration that has given rise to so much discussion as regards the forms of cirrhosis. In this division of Rosenstein; the hypertrophic with icterus, and the atrophic and hypertrophic without icterus, in the use of the term biliary, with cirrhosis, it must not be forgotten that biliary cirrhosis may be atrophic in many cases, as was mentioned in the statistics given by Dr. Edwards. In most of these cases of biliary atrophic cirrhosis there is chronic obstruction of the gall duct, and the atrophy of the liver is secondary to the obstruction of the gall duct. In biliary hypertrophic cirrhosis, obstruction does not usually occur, but it does take place in the biliary atrophic form by gall stones very frequently. I have had the opportunity of looking over the specimen presented by Dr. Williams, and the peculiar feature is that it is complicated with degeneration, which does not usually occur in hypertrophic cirrhosis. But in this instance the fatty degeneration is to be regarded—at least, so far as the microscopic appearance goes—as an evidence of a conservative process. At no point could vacuoles be made out which resemble those seen in cases where the liver cells undergo metamorphosis. In regard to the other form of degeneration, the word amyloid is as applicable as any term that could be used. The test for amyloid material was not made in this case to my knowledge.

DR. JOSEPH M. PATTON—These two very interesting and complete reports, together with the discussion so far, serve to illustrate the confusion that exists in regard to the pathology of the different forms of cirrhosis of the liver. As Dr. Edwards has stated, there is a marked difference of opinion entertained by the French and German school. When we have gone over the various reports regarding this subject, we are so inextricably confused that it is difficult to make out anything in regard to the present status of the question. It seems to me, that clinically and in a gross pathologic way, we can certainly make out that we have an atrophic form of cirrhosis of the liver, which clinically is not as a rule accompanied with jaundice, but which may be so; and that we have an hypertrophic form or an enlarged liver which is cirrhotic, which is more apt to be accompanied with jaundice and in which cirrhotic processes are most likely to be found beginning in and around the biliary duct. Clinically, it is very difficult to make out, when you first see a case which of those two forms it may be. If a man does not believe in the hypertrophic stage of the ordinary atrophic liver, he would not be puzzled, but the consensus of opinion is in favor of such a stage,and personally I am satisfied that I have seen two or three cases in this stage in which the liver was enlarged and which afterward developed a typical hob-nail liver. This does not always occur, and it is not an easy matter to make out this stage because those cases comparatively seldom come under our observation during the enlargement of the organ.

DR. R. H. BABCOCK—One point of clinical interest is this: we ordinarily suppose that an atrophic cirrhosis of the liver means a liver smaller than one of normal size. We certainly do observe, clinically, cases of liver which, after having been of abnormal size from passive congestion for years, undergo contraction and hardening without coming down to a size less than a normal liver, and unless I am mistaken—and if I am in error I wish some of the pathologists present would correct me—such a liver is an instance of atrophic cirrhosis, although not Laennec's atrophic cirrhosis. I have in mind two cases of mitral disease in both of whom the livers are larger than normal, extending some inches below the inferior edge of the ribs. In these cases the livers are very firm, hard, and with a sharp grisly inferior edge. One of the patients has been under my observation since September, 1886, and the liver when I first saw the case was apparently simply one of passive congestion. The inferior edge presented a rather rounded border, and there was tenderness. That liver has since contracted, and all of the symptoms of which the patient complained during the state of congestion have passed away. Her liver reaches nearly the level of the umbilicus. Is not this a case of atrophic cirrhosis of the liver in which the organ is larger than normal?

DR. EDWARDS—The reason that I brought out the conflicting opinions of the different authorities on the subject was to show how one, in searching for definite criteria to differentiate between the two cirrhoses would be unsatisfied, because there is scarcely a single criterion given for one type that may not be found in the other. The second point, and one that I would like to have heard discussed in connection with the case reported, was the almost exact parallelism between the clinical questions which came up in respect to our case and the pathologic findings; that is to say, the difficulties which we encounter clinically are insignificant to those which we find on gross pathologic inspection, or even under the microscope.

DR. WILLIAMS—It seems to me as if the differential diagnosis between many cases depends more upon clinical than microscopic evidences. We may get cases of hypertrophic cirrhosis with a considerable difference between them microscopically, and I would rather agree with the observations made by some French writers, that the disease can be called hypertrophic cirrhosis with jaundice, if we have

an enlarged smooth liver and enlarged spleen with jaundice and without ascites, where carcinoma, echinococcus cysts, and other causes of enlargement of the liver can be excluded, irrespective of the distribution of the connective tissue or the presence of degeneration of the liver cells.

SERO-THERAPY AND ACCESSORY TREATMENTS OF TUBERCULOSIS.

Read before a "Tri-State" Medical Society, April 21, 1895, St. Louis, Mo.

BY PAUL PAQUIN, M.D.

PHYSICIAN-IN-CHIEF OF THE ST. LOUIS SANITARIUM FOR THROAT AND LUNG DISEASES, ST. LOUIS, MO.

In January last I had the honor to report to the St. Louis Medical Society, the result of my researches up to that time, on the action of a certain kind of serum in the treatment of tuberculosis. The clinical history of twenty-five cases treated six weeks or three months was given. Seven cases (four with cavities, among whom two had been bed-ridden and given up as absolutely hopeless), were brought to the Medical Society at night, in a weather rendered severe by the fall of a melting snow, and not one coughed during the two hours of their exhibition in a smoky room. It was then demonstrated that all of the twenty-five patients had been decidedly benefited; the least that had been done for a few of them was the arrest of the decline. Only four or five were benefited to this slight degree, while all the others, all in the last part of the second or in the third stage of pulmonary consumption, were improved to a marked degree in almost every respect. Chief among the good results was the universal gain in weight, which ranged from one and a half pounds in two weeks in people who had been losing twice as much per week, to twenty-three pounds in two months; this, in spite of the decidedly meager fare that is naturally granted in the City Hospital and Poor-house. Since then, I may add that the improvement in the city cases has continued, notwithstanding the most severe tests and serious interferences, such as the repeated sulphur fumigations for several weeks during the smallpox epidemic (a test too hard even for healthy lungs); and such as the efforts that were made almost daily to produce a mental feeling against the treatment.

Furthermore, I am glad to report good results obtained since then in three private cases: Mrs. R., Mrs. V. and Mr. P., all in the second stage of the disease, whose symptoms have disappeared to such a degree that one is tempted to call them cured. That report was a statement of facts indisputable, but the facts were not accounted for, nor did the profession at home, generally speaking, view them with absolute confidence. On the contrary, although any physician could have verified the report by visits to, and study of the patients, some usually wise doctors concluded that the facts brought out must be considered impossible any way, whatever the evidence, and must therefore be discredited. But the patients still live and are still improving, and again the verification of the report then made, and to-day reaffirmed, is invited. Any physician or other individual, whom the Superintendent of the City Hospital may welcome, may go and judge for himself.

To-day I have the honor to present to this scientific body a theory explaining to a limited degree the basis of the therapeutic action of the serum and, furthermore, the grounds for, and the kind of accessory treatment that should be practiced in tuberculosis.

In the first place, we must realize that sero-therapy is not medication in the usual acceptance of the word. It is not the production of pure chemic effects as by drugs; it is the production of certain phenomena by the increase of quality or virtue of pre-existing physiologic functions, and perhaps, the creation at times, of physiologic faculties unknown before in the diseased organism. In other words, sero-therapy, the use of nuclein and other organic extracts of the kind, whether animal or vegetable, produce good therapeutic results in certain conditions, probably because they augment or create natural defensive physiologic forces necessary to fight disease.

And what does this antipathologic power depend on? It depends on the individual and collective energies and faculties of the cells, which form the ultimate appreciable structure of such complex organisms as man, and other multicellular beings.

In infections, at least, we should no longer "dope" man as a *whole*, to cure him, but we should strive to interpret the nature of the cells forming his tissues; their activities, their reactions to drugs and physical treatment, and we should minister to these microscopic individuals or aggregations, with a view to increase their natural functions in the prevention of diseases, or create activities of this character.

Sero-therapy in tuberculosis has produced the effects stated in my first report. How did it do it? By what mode of action can the serum of the blood of a horse rendered, by certain methods, more strongly immune against tuberculosis than it is naturally, arrest the tuberculous process in an infected human being? It is, in my judgment, on the one hand by an infusion in man's system of a certain quantity of the protective or defensive substances secreted naturally by the cells of the horse and during the process of immunization, the property of which is to protect this animal against the disease; on the other hand, it is probably by the action of the nuclein of the serum, which stimulates the cells of a human body to greater physiologic action against the germs of tuberculosis. It is, in a word, a form of germicidal nutrition of double value obtained by a physiologic process.

Many objections have been raised against sero-therapy by those who prefer polypharmacy (which is so convenient and presupposes no great knowledge of physiology or pathology, or anything else to practice medicine). This was to be expected.

It is a great trial for the retardative doctor in the scientific procession of medical men, this physiologic therapeusis. It is a very inconvenient thing to find one's self in the presence of the awful necessity of studying man seriously through a microscope, and to know one's self incompetent to do it. But this is the situation. Prate as we may against scientific medicine, microscopy, bacteriology, we must acknowledge that only through such, and the application of scientific facts in practice, can medicine become a science exact enough to make the doctor know and trust medicaments in a given disease. Clinical observations are invaluable as indications, and they often suffice to point to useful therapeusis, but observations alone explain nothing, and give us little data to rely upon with confidence and safety. But I am digressing. I will say that so far the objections mildly raised by the timid, wildly painted by the fearful, foolishly decried by the ignoramus,

have not materialized. Neither glanders, nor any other awful disease of the horse, in the three years of experimentation with serum, abroad or in this country, has been transmitted to man. True, a death or two have been attributed to the serum in the treatment of diphtheria, but what if it is true? What valuable, active medical agent has not caused one death in five thousand treated, or per ten thousand doses?

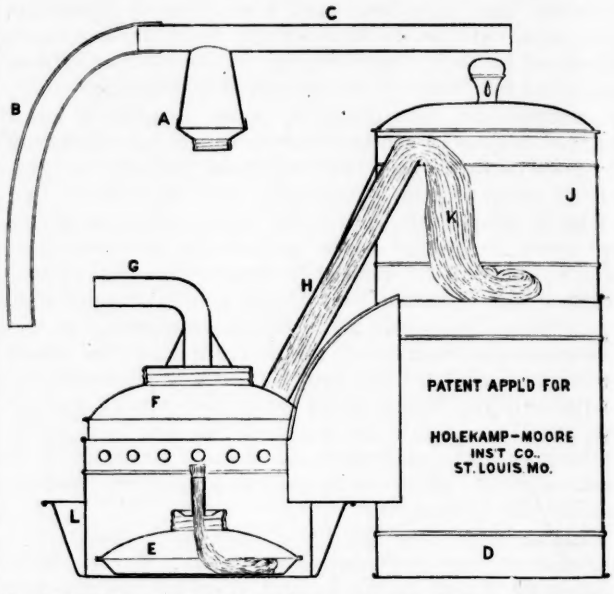
For my part, I can say that over three thousand injections of serum produced under my direction, have been made in human beings, and not a serious accident has resulted. In six different injections there resulted a quick disturbance of the capillary circulation, evidenced by a flush of the face, dizziness and weakness. These lasted but a few seconds, but in two instances were followed by rigors. In a few cases in which the injections were begun with large doses, 1 or 2 drachms, and pushed energetically, there followed a mild urticaria, which promptly disappeared soon after the injections were dropped or reduced, and did not reappear during the progressive dosage which followed in nearly every case.

These annoyances (produced chiefly during experimentation) are insignificant when we consider the hopelessness, the fatality of tuberculosis under any and all forms of treatment heretofore employed. The risk of one fatal result per cent. would be justifiable, if not indeed a larger proportion.

But because sero-therapy does produce a physiologic effect that tends to arrest tuberculosis, it does not follow that a physician should depend on that alone, in all forms and in any stage of consumption, and expect a cure. For one thing, it is preposterous to expect a decomposed lung to be restored by any form of therapy. It is not easier to reconstruct a pair of degenerated lungs than it would be to replace a gangrenous limb by any method. Consequently, the disease must always be diagnosticated with scrupulous care, not only to establish the existence of the malady, but its particular nature, its extent, its relations to any and all of the various important organs of the body. In women the relation of tuberculosis to ovarian and uterine affections, should always be carefully considered. There are besides, the mixed infections to consider—we meet them daily. The lungs, the intestine, the liver, become the seat of myriads of germs of different kinds sometimes, and tuberculosis is then a complicated disease deadlier and more rebellious than in the most virulent form uncomplicated. What, then, should be the treatment of tuberculosis? Generally speaking, so far as the constitution goes, it should be celluiar, and locally it should be antiseptic. Taking as a type, pulmonary consumption, it is necessary on the one hand to try and force the cells of the diseased to produce the greatest amount of defensive energy in whatever form nature may exhibit it. This may be accomplished presumably by sero-therapy, and may be assisted by nuclein, etc. On the other hand, we must invariably insist on the constant use of reliable non-poisonous antiseptics. This may be considered secondary to the main treatment, but in fact it is of the greatest importance. It is directed to the specific and complicating germs themselves, and aims to arrest their development.

The continual re-infection in tuberculosis, both by swallowing sputa and by the cumulative growth of the specific germs and various others, and the progressive alterations of tissue in the diseased parts can be somewhat checked by a proper direct medication, and thereby cellular constitutional remedies are given better opportunities to act.

Among the oldest forms of lung medication, is the inhalation of medicated vapors or atomized drugs. The method is good, but unfortunately it falls far short of the object sought, chiefly, because the inhalations are not constant enough for one thing, and, on the other hand, the antiseptics selected are seldom well chosen. Inhalation, to produce useful, lasting, germicidal effects, must be almost continuous. During a long period of experiments, I have tried the various inhalers on the market, but none filled the want in my judgment. What we need is an apparatus that will atomize or vaporize eight or twelve or more hours continuously, at a slight expense. After numerous experiments and tests, the vaporizer here exhibited was produced. It is not yet perfect, but needs only slight improvements to make it what is desired. It will throw a spray all night and all day at the cost of a few cents of alcohol, and will keep the air of a room filled with antiseptic material.



Beside this, a mouth-piece attached to the nozzle can be made to direct the vapor straight to the nose and mouth from the bedside.

Another thing useful for disinfection in tuberculosis, is this "lip-trough-inhaler"[1] for essential oils. It is fitted under the nose, and the ribbons are tied behind the head. Before putting it on, a little bundle of absorbent cotton, or a little sponge is placed in the trough and a few minims of the essential oils selected are dropped on the cotton twice or three times in the twenty-four hours. This may be worn almost constantly. I devised this little instrument to carry out the idea of Carasso, who prescribed with great benefit, essence of peppermint on a little cotton wad placed under the nose.

In conclusion, let me speak of two other very serious necessities in the treatment of consumption. I refer, first to nutrition, which may be forced and should always be guarded and wisely directed—of this I need not speak here. I will only say that in cases of mal-nutrition in tuberculosis, some easily

[1] Manufactured and owned by the firm of Holekamp-Moore, instrument makers, St. Louis, Mo.

digested and very nutritious aliments must sometimes be used. Mellin's Food has served me a very good purpose in many cases; I prescribe it often, and the various liquid peptonoids have materially assisted me.

I refer secondly to repeated disinfections of the mouth. The mouth and throat should be frequently gargled with a strong non-irritant antiseptic preparation. This is demanded both for the protection of the patient against infection of the throat, which is not uncommon as a secondary process, and for the protection of relatives, friends and the public, because through kisses and the saliva expectorated, the germs are carried to others. The writer has tried numerous ingredients for this purpose, but was disappointed more or less, or dissatisfied in one way or another, with everything tried. Citric acid, and most of the essential oils are good, but unfortunately they are not easily combined over the prescription counter. In the last few months I have tested and used Pasteurine very largely, and found it just what seemed desirable. Its antiseptic effects are strong, and yet there results no irritation. The preparation is exceedingly pleasant to the taste and is very fragrant. I use nothing else now.

I here append a few formulas which I use for direct antiseptic medication in tuberculosis of the respiratory organs:

℞ Creasote (beech-wood) or trikresol.....4 oz.
Pasteurine.....8 oz.
M
Sig: A large tablespoonful per pint of water. Vaporize in the "Continuous Siphon Vaporizer."

℞ Carbolic Acid..... ½ dram.
Pasteurine.....8 oz.
Aqua
Sig: Use as a mouth wash and gargle three or four times a day.

℞ Ess. oil of peppermint (chem. pure).....1½ oz.
Ess. oil of eucalyptus (Tyndale's)..... ½ oz.
Ess. oil of cinnamon (chem. pure)..... ½ oz.
M
Sig: Two to five drops on cotton or sponge in "*Lip-Trough*-Inhaler," three or four times a day.

PROTECTOR FOR THE HAND IN INTUBATING THE LARYNX.

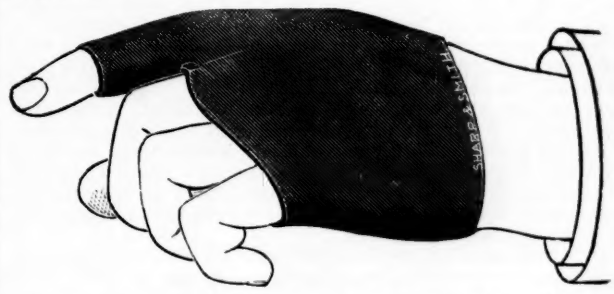
BY JOHN EDWIN RHODES, A.M., M.D.

PROFESSOR OF PHYSICAL DIAGNOSIS AND CLINICAL MEDICINE NORTHWESTERN UNIVERSITY WOMAN'S MEDICAL SCHOOL; LECTURER ON LARYNGOLOGY AND DISEASES OF THE CHEST, RUSH MEDICAL COLLEGE, ETC., CHICAGO.

One of the great dangers attending the operation of intubation, is that of injury to the hand of the operator, while introducing or extracting the tube.

I have employed a number of devices for the protection of the hand and finger. Sometimes a heavy rubber cot, cut off at the closed end, and drawn well over the finger will answer the purpose with a very young child. With older children, protection for the finger alone is not sufficient, and lately, I have wrapped a piece of adhesive plaster about 4 or 5 centimeters in width about the knuckle of the index finger, as suggested to me by Dr. John Bartlett. This does very well, but takes time, and is not always obtainable.

The protection of the knuckle and hand are necessary because the larynx is sometimes so far from the lips that, in order to carry the tip of the finger into it, the knuckle is pressed against the upper teeth so forcibly that a contusion or laceration of the skin may be caused, unless great care is exercised. In the hurry incident to this operation, which requires dexterity and often great celerity, some precautions are apt to be neglected, and the dangers resulting from a wound which might be received in this way are forgotten.



I have devised the protector, believing that it meets all the requirements for which it is designed, in the operation. It can be carried in the intubation case, is easily and quickly adjusted, it can be easily cleansed and disinfected, is flexible and does not hamper the movements of the hand or finger. It affords perfect protection to the forefinger and the plantar and palmar surfaces of the hand, so that injury by the teeth of the patient either from biting or from the chance slipping of the gag, (an accident which often occurs), or from forcible pressure against the upper teeth in reaching the larynx is impossible.

Messrs. Sharp & Smith, 73 Randolph Street, Chicago, have made these protectors for me in two sizes, so that the hand of any operator may be fitted. They are made of the best rubber, 1½ millimeters in thickness.

Venetian Building, Chicago.

SOCIETY PROCEEDINGS.

Association of American Physicians.

Tenth Annual Meeting held at the Army Medical Museum and Library in Washington, D. C., May 30 and 31, 1895.

[Special correspondence of the JOURNAL.]

FIRST DAY, THURSDAY, MAY 30.

The meeting was called to order by DR. WILLIAM OSLER, who delivered the President's Address, in which he asked how far the Association had fulfilled the object which it had in view at its beginning, and if the aspirations and hopes had been realized in the advancement of scientific medicine. This was an organization with no code of ethics, no medical politics; no one cared who were the officers and who not. It was not asked from what part of the country a member came, but has he done good work, and still more, if he has anything worth saying and can he say it? Nine volumes of transactions show what has been done. Some of the most noteworthy papers of the past ten years have been brought to light before this Association and all the questions of the

day have been discussed. The classical work of Fitz and Draper has been brought before the Association and in the discussions such subjects as the diagnosis of diseases of the stomach, of the pancreas, dysentery, infarction and other affections of the bowels, heart disease, sclerosis of the arteries, the mutual relation of renal, arterial and cardiac changes, anemia and chlorosis, thrombosis in chlorosis, myxedema treated with thyroid extract, removal of the ovaries and tubes, subphrenic abscess, acromegaly and lead poisoning had all been discussed. Dr. Osler said: "Our Association has had already a potent influence on the study of pathology and clinical medicine in this country. We need, however, a larger growth of men who are devoting themselves exclusively to these branches. The rapid progress of the medical schools has increased the number of teaching positions in the scientific branches and there is at present an actual scarcity of well-trained pathologists and bacteriologists to fill them. There is no need to insist upon the necessity of accurate and careful training in the development of workers in these branches. I do not think the profession of this country understands as yet the art of training special clinical physicians. They have taken too much for granted that such men develop readily in the routine of family practice. True, along this path some of the most noted men of our ranks have traveled, but the time has come when able young men should be encouraged to devote themselves to internal medicine as a specialty, content to labor and wait during the first ten or fifteen years of professional life with pathology as the solid basis of development. Such men will pass to the wards, through the laboratories, thoroughly equipped to study the many problems of clinical medicine; they will gain the confidence of their professional brethren by their accuracy and skill, and through them they will reach the public and a large practice. Such an opportunity and career is within the reach of every physician in any city with a hospital of fifty beds."

Dr. Osler then referred to the members who had died, and mentioned especially Drs. Alfred L. Loomis, of New York, and William C. Dabney, of the University of Virginia.

DR. B. K. RACHFORD, of Cincinnati, then read a paper on

LEUCOMAINE POISONING,

in which he said that leucomaine poisoning showed itself: 1, as a true migraine of leucomaine headache; 2, as a migrainous epilepsy or leucomaine epilepsy; and 3, as a migrainous neurosis or leucomaine gastric neurosis. We know very little about these substances. The principle ones are xanthin and paraxanthin and they were described by Salomon, of Berlin, who has done the best work on this, and he laid down the following points:

1. Paraxanthin and xanthin are poisonous leucomaines of the intestinal acid group, capable of producing the most pronounced nervous symptoms. They are readily soluble in water, urine and blood.

2. Paraxanthin is present in normal urine in such small quantities that its poisonous properties are lost in the solution.

3. Paraxanthin and xanthin are not found in the kidney; they are excreted from the blood by the kidneys.

In normal urine it takes about 9 liters to prove the presence of paraxanthin, and when we find it in 4 liters it is abnormal. Migrain is the most common manifestation of xanthin poisoning. In one case he found it in 3 liters of urine and in another case in 2 liters. It is recognized by the needle crystals and by its physiologic effects on animals. It could not be found between the attacks, which shows that it is excreted in disease during the attacks but not between them. In migrainous epilepsy the characteristic symptoms are: 1, the sudden onset of the attack, as a rule without warning; 2, the muscles are rigid but not convulsed; 3, labored, gasping and irregular breathing; 4, unconsciousness from the beginning to the end of the attack; and 5, the heart's action is rapid but regular and strong. In the study of migrainous epilepsy the following summary of facts may be made:

1. Uric acid and its compounds are not poisonous.

2. Paraxanthin and xanthin are poisonous leucomaines of the uric acid group which when injected into the mouse produce the following symptoms: (*a*), nervousness, extreme reflex excitability, almost tetanus and at times convulsive movements; (*b*), clonic tetanic stiffening of all the muscles followed by muscular relaxation; (*c*), dyspnea, orthopnea, asphyxia, gasping and difficult respiration is perhaps the most characteristic symptom; (*d*), stimulation of the heart, its movement marked and strong.

3. The patient during the intervals between the attacks did not excrete sufficient paraxanthin to be detected in 4 liters of urine.

4. The patient during an attack excreted a quantity of paraxanthin and xanthin enormously in excess of the normal amount. The paraxanthin thus excreted obtained from 3 liters of urine produced in the mouse and rat the characteristic symptoms of paraxanthin poisoning and abdominal enlargement.

5. The attacks during and after which the patient excreted such large quantities of paraxanthin were very similar to the paraxanthin poisoning in the mouse.

6. The paraxanthin excreted in such large quantities just following this attack must have been in solution in the blood during the epilepsy. In his experiments on animals he found that the permanganate of potash acted as an antidote to the leucomaine poisoning and for this reason he gave it to his patient with epilepsy, with some good to her, and she still takes it and has not been able to do without it for longer than six weeks at a time. He also reported one case of migrainous gastric neurosis in which there was vomiting relieved only by morphia, increased quantity of uric acid, xanthin and paraxanthin in the urine. He made the following points:

1. He found a history of migraine.

2. Previous personal history of sick headache.

3. The patient now suffers from attacks of severe gastric neurosis which recur at intervals of two or three weeks.

4. In 4 liters of urine excreted by the patient, in the interval between the attacks no paraxanthin was found and the "final fluid" was not poisonous to mice.

5. In 2 liters of urine passed by the patient during an attack, both paraxanthin and xanthin were present in comparatively large quantities and the "final fluid" was especially poisonous to mice.

6. From about one pint of stomach contents vomited by this patient during an attack, xanthin was separated but no paraxanthin was found. We can thus recognize three clinical types of leucomaine poisoning: (*a*), leucomaine headache; (*b*), leucomaine epilepsy, and (*c*), leucomaine gastric neurosis.

DR. F. P. KINNICUTT, of New York, asked if he had examined the urine of tetanus patients. It is probable that a certain number of these cases of tetanus are due to this. In cases of disordered stomach, especially gastro-intestinal disturbances, an examination might throw some light. He has seen two cases of tetanus, one fatal in forty-eight hours, in which the autopsy showed an enormously dilated stomach. The patient had had several previous attacks.

DR. W. H. THOMSON, of New York, was much gratified at this paper. He has long held this view. Cases of functional neurosis are not nervous disease at all, but are due to toxins rather than to gastric disease. He had had success with the benzoates of sodium and ammonium. Some of these cases occur in groups and develop these nervous symptoms only now and then. Heredity plays an important part here.

DR. F. C. SHATTUCK, of Boston, asked how long it took to make these chemic examinations of the urine. He asked because he once had such a case and it took four weeks.

DR. J. E. GRAHAM, of Toronto, asked if he had made examinations of the urine shortly before an attack.

DR. RACHFORD said that in his cases he took usually about three weeks to make an examination, and he has made these examinations at almost all times, and one week before an attack he had failed to find them. He had thought of tetanus but had not had a suitable case since he began this work. The subject has an important bearing on uremia and allied conditions.

DR. A. C. ABBOTT of Philadelphia, then read a paper on the "Effects of the Gaseous Products of Decomposition upon the Health and Resistance to Infection of Certain Animals that are forced to respire them." He put animals under a bell jar and compelled them to breathe air from decomposing substances and even inoculated some of them with the typhoid bacillus culture and found that the general results were negative; the animals did as well as others not experimented on, and he thought that such air has not the power of inducing pathologic conditions, or if it has, it has not been shown.

DR. C. BAUMGARTEN, of St. Louis, then read a paper "Renal Affections following Influenza." The question is of great interest. The origin of many cases of nephritis is very obscure, but the study has narrowed down this subject and simplified it. Influenza is one cause not generally recognized. Many authorities are silent on this subject and little mention is made of it in medical literature. It occurs more

frequently than is supposed. Damage to the kidney is a frequent, certainly serious result of the grip. Besides transient albuminuria, there have been found acute degeneration of the kidney, acute inflammation, both forms of chronic diffuse nephritis and cases of persistent albuminuria not plainly belonging to one of these groups. The damage to the kidney does not usually show itself until the influenza is forgotten. This has been shown in life insurance examination statistics. In the five years preceding the grip, he had found but about 1 per cent. of albuminuria among the cases he examined but in the next five years after he found 3½ per cent.

Dr. A. Jacobi of New York, had found this sequel frequently. The diagnosis was made possible by the use of the centrifuge and many cases would have escaped notice but for this instrument. It is the same kind of albuminuria as after diphtheria and typhoid fever and it must also be caused by a toxin of the germs causing those diseases. It is not like the post-scarlatinal nephritis. The large majority of cases get well in two or three weeks or a month but a few become chronic.

Dr. James Tyson of Philadelphia, had seen several such cases, and he found that persons who had a physiologic albuminuria were always worse after grip.

Dr. F. C. Shattuck of Boston, had seen a number of these cases. In one autopsy he had found a large red swollen kidney. He did not believe the condition was the same after each disease. He does not recall a case following typhoid fever as that after other diseases.

Dr. M. H. Fussell of Philadelphia, has discovered so many of these cases that he never regretted his rule to make a routine examination of the urine in all cases without exception.

Dr. Jacobi said he had referred to the kidney complication during and not after typhoid fever.

Dr. A. H. Smith of New York, said that this complication was much more frequent than was usually supposed, and those we recognized probably represented a small part of what actually occurred. Subnormal temperature is one symptom due to profound poisoning of the nervous system; it is much more severe than the primary poisoning from the grip.

Dr. Baumgarten said in conclusion that we must distinguish between those complications of the kidney that came on during, and those that came on after the grip; those with or without dropsy, those with uremic symptoms and other troubles which can probably be traced to this devastating disease.

Dr. George M. Sternberg, Surgeon-General, U. S. A., then presented a paper prepared by himself and Dr. Walter Reed, Surgeon, U. S. A., on "Immunity against Vaccination Conferred upon the Monkey by the Use of the Serum of the Vaccinated Calf and Monkey." They succeeded in establishing immunity in the American monkey for thirty days, but the result did not reach a practical conclusion because the amount of serum to neutralize the poison of the disease was too large for a dose, being about 1 to 100 to 1 to 50 per body weight.

Dr. James T. Whittaker of Cincinnati, then read a paper on the "Etiology of Idiopathic Hypertrophy of the Heart." He did not refer to enlargement due to valvular disease. The term idiopathic, is a misnomer. In some cases the cause remains concealed and it is called cryptogenetic. It is not a rare disease and may occur after severe strain as after war. There is a change in the position of the apex. The diagnosis may be made without the aid of percussion. The attempt to make out the triangle of the heart dullness by percussion is difficult. Hypertrophies are due to: 1, increased resistance in the vascular system, as in arterio-sclerosis; 2, to diseases of the heart muscle from infection, degeneration, etc.; 3, affections of the nervous system. The valvular disease usually has a previous cause. There may be a hypertrophy from natural causes. There may be a development of the heart walls with backward development of the thorax as pointed out by Germain Sée. There may be the hypertrophy of age, of work, of plethora, of pregnancy and of alcohol. In pregnancy there is increased work thrown on the heart due to an increased size of the uterus and mammæ. In Munich, heart atrophy from alcohol is put down as third in the causes of death in that city. Syphilis, of itself, rarely affects the heart but the resulting arterio-sclerosis does. Bright's disease, as is well known, causes heart enlargement. Lead poisoning is another cause. Saturnism is more frequent than is usually supposed. Most cases succumb to heart failure and the real cause is not found out. Then other causes are diseases and deformities of the chest, emphysema, kyphosis, myocarditis, gout, diabetes, irritation of the vagus, use of tobacco and excess of venery, mental troubles, success or failure in business. Look for the cause and treat it. Women are rarely affected in this way.

Dr. J. P. Crozer Griffith of Philadelphia, read a paper entitled "The Transmission of the Mitral Diastolic Murmur," the object of which was to call attention to the fact that these murmurs are often heard outside of the area usually given. He had seen several cases in which this murmur was heard up toward the axilla and even in the back.

Dr. James Tyson of Philadelphia, had seen one of the cases mentioned and had observed this fact in other patients.

Dr. James T. Whittaker of Cincinnati, said it was not so much to determine the position and extent of the murmur but to find the point of greatest intensity. The intensity of the murmur is indicative of the gravity of the disease.

Dr. Charles Cary of Buffalo, spoke of the causes of these sounds and from the anatomic relations he thought that a regurgitation must often accompany these presystolic murmurs.

Dr. John H. Musser of Philadelphia, had been familiar with the work of Dr. Griffith and he related a case of his own. In referring to Dr. Whittaker's paper he had had mitral hypertrophy of the heart in which a mitral regurgitation relieved the headache, high tension and other unpleasant symptoms.

Dr. McPhedron of Montreal, thought that in these cases the loudness of the murmur depended on the tension of blood in the pulmonary circulation.

Dr. A. H. Smith of New York, said that a murmur that was diastolic may also in part be systolic when the mitral curtains were stiffened and did not coapt. There is a regurgitation which ceases when the pressure behind the valves reaches a certain point. It may be that even in health there is a little regurgitation.

Dr. Charles G. Stockton asked if it was a diastolic or presystolic sound.

Dr. Griffith said in conclusion that the position of intensity is the position of mitral stenosis with no murmur over the aortic area and none over the sternum. As to the varieties and cause of the loudness he did not know, or whether an explanation had been given. Many things can not be explained as to the loudness of the murmurs. These murmurs were all pure murmurs. There is no difficulty in finding the diastole and systole.

Dr. A. H. Smith of New York, then read a paper on "The Use of the Differential Stethoscope in the Study of Cardiac Murmurs." With good hearing the differential stethoscope was very important in distinguishing between synchronous and alternate heart sounds in different parts of the chest.

Dr. Whittaker said this was very well when the hearing was equally good in both ears which was so often not the case, but he thought the question of the position of the murmurs was not as important as the condition of the heart muscle.

Dr. Charles Cary of Buffalo, read a paper on "The Cause of the Exaggeration of Sounds over the Right Upper Chest, both in Health and Disease," in which he demonstrated some specimens to show that there was an anatomic reason for this difference and showed the points of resemblance and difference between the two sides of the chest. Drs. Cary, Griffith and Tyson discussed this paper.

Dr. Charles G. Stockton of Buffalo, reported "Two Cases of Fat Necrosis."

Second Day, Friday, May 31.

Dr. William H. Welch opened the discussion on antitoxin. The decision of the good of antitoxin is in the hands of the clinicians and not of the bacteriologists. One observer says the question does not rest experimentally on a scientific basis. It is to be conceded that the Klebs-Löffler bacillus is the cause of diphtheria. These arguments would also hold against other diseases. The results of experiments are the most striking, but we have more in the application of the tetanus antitoxin. The introduction of its application to human beings is so that one can not argue from animals to human beings. The tetanus antitoxin is not efficacious because the poison or toxin of tetanus is cumulative and the antitoxin has no effect because it is too late. We do not know how the antitoxin acts, but that is no argument against its therapeutic action. This is also true of other diseases and this should not prevent us from using it. There are two prominent theories, the chemic and the vital theory. The antitoxin quite neutralizes the toxin according to the chemic theory, but the vital theory argues that the antitoxin acts through the changes of the serum on the cells to make them

immune. The vital theory seems to satisfy some demands. This method of treatment does not prevent post-diphtheritic paralysis. This complication is as common if not as severe after as before the treatment. These paralyses depend upon the strength of the toxin. This is against the chemic and for the vital theory. There seems to be a quantitative relation between the toxin and the antitoxin, but there are no means of knowing how much toxin is in the blood and how much antitoxin to give and we may give too little. It is not known whether it exerts a direct specific action on the membrane or not. The benefits of the treatment are very doubtful when the antitoxin is introduced after the third day. Behring showed this in experiments on animals. We are not to expect brilliant results until we decide on what cases are diphtheria and what are not. As the organism is found in healthy throats this would include cases that were not recognized before and many cases which were not distinguished before, clinically, are now called diphtheria. On the other hand, there are certain cases of pseudo-membranous inflammation which are like diphtheria but which are not due to the Klebs-Löffler bacillus. If all these cases are taken into account the statistics of this disease will be markedly affected. As regards the proportion of cases like diphtheria but which are not, statistics differ, but my impression is that the very large amount of statistics from boards of health and hospitals give a wrong idea on this subject. It is not easy to find the bacillus and these examinations are usually made in a routine way, hurriedly, by inexperienced men and when we consider the difficulty of finding the organism we may say that in 30 to 40 per cent., it is not diphtheria and it is probable that not more than 5 or 10 per cent. of the cases are discovered. Then there are many complications of other organisms present which increase the difficulty. The mechanical obstructions in the larynx are to be taken into consideration. As to the direct effects of the antitoxin they are not different from those that may occur in the natural cure of the disease. Indeed the treatment is a natural cure; it is only a hastening of the natural cure. The statistical results are at the present time very elaborate, and from all sides and in all countries the figures would prove that this treatment is of great benefit.

From these statistics, various inferences may be drawn. They may include a large number of light cases and some mild cases may be called diphtheria when they are not. The agitation in the public press causes persons to seek treatment earlier than usual. Some say that of late the epidemics of diphtheria have been milder than formerly and cases would have recovered under any form of treatment. In some cases the antitoxin has no effect at all, possibly because the cells of the body fail to respond to the action of the serum. Then the general impressions of such men as Baginsky, Widerhofer and others obtained at the bedside are of value, and they are inclined toward believing in antitoxin. Kassowitz of Vienna, believes that this treatment has done much harm and says he has found at many autopsies evidences of the damage done to the body by this serum. Antitoxin is said to have no effect on the post-diphtheritic paralyses and to cause more albuminuria, but it has certainly caused a more careful examination of the urine to be made in these cases. It is made out that albuminuria is found in from 83 to 76 per cent. of all cases treated. All arguments on the injurious effects of the serum should be based on whether it is given subcutaneously or intravenously. Skin eruptions and affections, chills, pustules, etc., are occasional injurious effects of the serum, but they are not permanent and they do not outweigh the benefits. There is certainly a reduction of the mortality from one-third to one-half, if the case is treated before the third day. The injurious effects of the remedy in some cases are certainly great, but the benefits far outweigh the harm done and the bad effects are usually only temporary. It will be a long time before final judgment can be given on this remedy.

DR. MASON of Boston, reported a large number of cases treated at the Boston City Hospital, and the mortality and morbidity had certainly decreased. There may be some sources of fallacy; for instance there are more school inspectors and each child is carefully examined, and if the bacillus is found in its throat it is kept at home and the case is put down as one of diphtheria. The general appearance of a diphtheria ward now is different and the nurses and attendants are not afraid of such cases as formerly. Immunization is short, however. Some cases develop in spite of the injection. The effect of this treatment is more marked after the membrane is lost. In hospital there are few light cases, as they are rarely seen before the third day.

DR. A. JACOBI of New York, is favorably inclined to this mode of treatment, but the numbers as yet treated are far too small from which to draw conclusions. We do not want hundreds but thousands of cases. There have been seasons when the ordinary treatment with the bichlorid has been just as successful as the antitoxin is at present. He knew of forty cases collected some years ago and thirty-nine got well with the old treatment. Some persons refused the antitoxin treatment and preferred the old methods. When he used antitoxin he used other things too. It may not have been a scientific way but he wished to save his patient. Albuminuria is a very common symptom in any case, but he thinks he has had fewer cases since he has used antitoxin than before. He thinks the nephrites are less well marked. He related the effects of the treatment in his experience on the membrane, and spoke of the operations of intubation and tracheotomy and their frequency since antitoxin was introduced. He wished to place himself on record as a heretic. He thought the clinicians were too much in the hands of the bacteriologists. Diphtheria was not always caused by the Klebs-Löffler bacillus alone; the other organisms were also found in the membrane and he thought the clinicians accepted too blindly the statements of the bacteriologists.

DR. JOHN S. BILLINGS thought that statistics to be of any value should be carried over a long period of time, and that in this question the value of hygienic principles should not be forgotten.

DR. MASON said the only fair way to compare was by seasons.

DR. A. C. ABBOTT of Philadelphia, wished to answer Dr. Jacobi. He thought the clinicians looked to the bacteriologists with good purpose, and the etiology of disease was in a very chaotic and tangled state until the bacteriologists lent a helping hand.

DR. GEORGE M. STERNBERG said that the failure of tuberculin had brought such treatment into opprobrium and many were skeptical because the experiments with tuberculin on animals had not been successful.

DR. F. H. WILLIAMS of Boston, showed a syringe that could be sterilized by boiling. It was made of glass with asbestos packing and to prevent the needle from breaking off, in the case of restless children, he put in a small piece of rubber tubing between the syringe and the needle.

DR. WILLIAM OSLER reported a number of cases treated with antitoxin and four of them showed no Klebs-Löffler bacillus.

DR. D. W. PRENTISS of Washington, then exhibited a patient, whom he had shown six years before with purpura hemorrhagica rheumatica. The boy had almost lost his sight but still worked. He had had good results with him by the use of phosphorus internally.

DR. WILLIAM OSLER said, that Henoch had described this disease very thoroughly. 1, there are recurrences; 2, there are marked gastro-intestinal crises which may occur without any other manifestations; 3, the symptoms may be articular; 4, there may be hemorrhages under the skin, erythema multiforme, simple edema, hemorrhages from all the mucous surfaces and with all this an acute nephritis in many cases. There is little literature on the subject in English and the best work is Henoch's Festschrift. Drs. Stockton and Prentiss also discussed this paper.

DR. J. G. ADAMI of Montreal, then reported a "Case of Madura Foot" (Mycetoma Pedis) which was probably the first case reported in this country. The microscopic appearance of the lesions reminds one of actinomycosis.

DR. W. P. NORTHRUP of New York, read a paper on "Gonorrheal Arthritis," in which he reported several cases showing the joint affected, the swelling, exquisite sensitiveness, little fever, short course of four weeks, and recovery with perfect joint and the effusion was only serous.

DR. WILLIAM H. WELCH of Baltimore, said that there was often absence of pus in the joints, and Dr. Halsted had found hemorrhagic effusion in many joints which he had examined. Dr. Flexner had accidentally found that an extract of fetuses of pigs made an excellent culture medium for the gonococcus. He also showed a specimen of gonorrheal endocarditis and from the patient Dr. Flexner had extracted some blood, mixed it with agar and obtained a culture of the gonococcus.

DR. F. C. SHATTUCK of Boston, was surprised to find on looking up the literature how often two or more joints were affected. This paper was further discussed by Drs. Cary of Buffalo, Mason of Boston, Griffith of Philadelphia, Adami of Montreal, Roosevelt of New York, Osler of Baltimore and Northrup of New York.

DR. A. JACOBI of New York, reported a "Case of Hyperthermy up to 65 Degrees C. (148 Degrees F.)." The man had fallen on deck and received an injury. The temperature

broke several special thermometers. He ran away from hospital finally.

Dr. William H. Welch referred to a case reported by Dr. Galbraith of Omaha, where the temperature went up to 171 degrees F.

Dr. J. Guiteras of Philadelphia, made some observations on the "Spleen and Marrow in Leukemia."

Dr. F. H. Williams of Boston, exhibited a "Comfortable Way of using Cold in Fevers."

Dr. George Dock of Ann Arbor, read a paper on "Goitre in Michigan."

Dr. J. E. Graham read a paper entitled "Displacements of the Liver."

Dr. M. H. Fussell of Philadelphia, read a paper on "Carcinoma of the Liver with Cirrhosis."

Dr. S. C. Busey of Washington, D. C., in collaboration with Dr. George M. Kober read a paper entitled "Milk as a Morbific and Infective Agent," with Tables of 134 Epidemics of Typhoid Fever, 73 of Scarlet Fever and 27 of Diphtheria due to Milk Infection.

Dr. W. P. Northrup of New York, exhibited the Fell-O'Dwyer Apparatus for Forcible Artificial Respiration.

Dr. S. J. Meltzer of New York, read a paper on the "Direct Faradization of the Stomach and the Intestines in Animals, as Cats, Dogs and Rabbits."

Illinois State Medical Society.

Abstract of the Proceedings of the Forty-fifth Annual Meeting held at Springfield, May 21, 22, 23, 1895.

[Special correspondence of the Journal.]

(*Concluded from page 896.*)

Dr. H. McKennan, of Paris, read a paper entitled

REPORT OF A CASE OF FOREIGN BODY OF THE TONGUE.

The author said it was for the purpose of showing the extreme tolerance to retain foreign bodies, of an organ much in use, that he presented a report of the following case which occurred in the practice of a neighboring physician, and through whose courtesy he was permitted to present the facts as stated below:

Otto G., aged 14, Jan. 18, 1895, while shooting an old rusty shotgun, burst the barrel and produced the following injuries, which were described by his physician, who saw him several hours after the accident as follows: "Face considerably burned by the powder, cut through the left side of the lower lip, about three-quarters of an inch in length; three of the upper teeth and a large piece of the inner surface of the alveolar process were gone; a smooth clean-looking wound of the tongue about the size of a silver 10-cent piece was found a little to the left of the apex, with no evidences of a foreign substance present. The whole organ was swollen, and the boy was unable to talk. The parents opposed the use of an anesthetic. The doctor cleansed and dressed the wound as perfectly as the nervous condition of the patient would permit. On the following day the salivary glands were stimulated to great activity, and a profuse flow of saliva continued through the day. Patient could not articulate sufficiently to be understood, and was totally unable to swallow. He was fed by means of a stomach tube, and on the third day was able to swallow liquids sparingly. The patient improved gradually and in the course of a few days all the wounds were healed, and at the end of a month he returned to his home in the country, where he was able to attend to his usual farm duties. He claims to have suffered no pain or inconvenience except that his tongue seemed heavier than it had ever been before. He was able to talk as well as usual. One day, while at work on the farm, he noticed the click of a metal substance against his teeth. He immediately presented himself to his physician, who was greatly surprised to find protruding from the former wound of the tongue, the screw-end of the breech-pin of the old shotgun. This foreign body remained imbedded in the tongue fifty-four days, and measured one and a half inches in length, three-quarters of an inch in breadth, one-half inch in thickness and weighed three-quarters of an ounce. Owing to the protected position of the tongue in the body, injuries to this organ from external violence are comparatively rare. When injuries do occur they are usually in the nature of shotgun or penetrating wounds.

In Dennis' "System of Surgery," vol. I, Professor Conner, speaking of wounds of the tongue, on page 488, says: "In passing through the mouth a bullet often wounds the tongue, either grooving it or tunneling it. In rare instances the ball lodges, and cases are on record in which it has remained in place for years."

Dr. McKennan regarded this case as unique, and believes it is without a parallel on record.

Dr. Arthur D. Bevan, of Chicago, read a paper on "Mastoid Disease and Resulting Venous Thrombosis and Brain Abscess."

Dr. A. C. Corr, of Carlinville, followed with a paper entitled

TRACHOMA OF THE CONJUNCTIVA, FOLLICULOSIS OF THE CONJUNCTIVA, GRANULATED LIDS, NOT A DISEASE OF ITSELF AND OF ITS OWN KIND.

The author quoted various authorities on diseases of the eye, pointing out what is in the main regarded as the cause, origin and nature of this disease, and said that for some years he had spent much time in looking for an assemblage of symptoms that would enable him to readily recognize this disease, and at this date he is forced to the conclusion that entitles this paper. Within the past few months there has come to his hands what seems to him an indisputable demonstration that folliculosis and trachoma of the conjunctiva is a condition arising out of, and because of, continued irritation or inflammation of the conjunctiva of various kinds, and *not itself* depending on a microbe or specific infection. Dr. Corr then referred to a paper read before the Wisconsin State Medical Society, June 6, 1894, by Dr. H. V. Würdemann, of Milwaukee, and published in the *Ophthalmic Record*, October, 1894, entitled "Pathology of Granular Conjunctivitis."

Dr. Corr said that the author of this paper had elucidated the subject more perfectly than it would be possible for him to do, and that therefore he would content himself with quoting the salient points, which he did.

Dr. J. Homer Coulter, of Chicago, contributed a paper entitled

WHEN AND HOW TO OPERATE IN ANTRAL EMPYEMA.

The author said that this was one of the most mooted questions in rhinology to-day. It was not in the hope of having it thoroughly settled that he ventured to call the attention of the society, made up largely of general practitioners, to the subject, but rather that by a brief survey of the opinions of specialists and the reasonable deductions therefrom, he might be able to assist the practitioners in the earlier and more certain diagnosis of the condition. Many of these cases go a long time unrecognized, and thus become proportionally serious conditions. Reference was then made to the etiology of the disease, as well as to the symptomatology.

The objects to be obtained by any surgical procedure were: to form an exit for the pus; to destroy the pyogenic membrane; to establish as nearly as possible a normal functional activity of the cavity, and the surrounding mucous membrane. Dr. Coulter maintains that an operation should be done in the majority of these cases, considering: 1, the ease with which the operation can be done; 2, the good results to be expected from the operation when properly and thoroughly done; 3, that bad effects or misfortunes are unusually rare considering the severity and extent of the operation; 4, that, as elsewhere, the earlier the operation the better, when at least a reasonably certain diagnosis of empyema has been made; 5, an exploratory puncture in case of doubt is both harmless and confirmatory, hence advisable; 6, no one operation will suit best for every case.

As to the question of *how* to operate, the operation must necessarily be done: 1, in the canine fossa; 2, through the alveolus; 3, in the middle meatus; 4, in the inferior meatus; or 5, the Talbot-Fletcher operation. Various procedures were then described. The author favors the method of operating through the inferior meatus.

The operation which he terms the Talbot-Fletcher method is a thoroughly practical one, a minute description of which may be found in the Journal for Nov. 24, 1894. It consists in boring a hole through the anterior wall of the antrum at the base of the malar process, midway between the root of the second bicuspid and the first molar tooth, directing the drill upward and backward, the antral wall being easily pierced.

Dr. Oscar J. Price, of Chicago, read a paper on

INFECTED WOUNDS.

The most common habitat for pyogenic organisms with which we have to contend, in the management of infected wounds, is found upon the skin in close relation to the wound; especially if the parts are naturally moist; and also from the fingers of the surgeon or his assistants; infected instruments which have not been properly sterilized; dust which may be charged with dry and floating germs; ordinary

poultices and common water dressings; unclean towels and tables; contact with ordinary clothing; dirt, grease and uncleanliness generally; exposed gauze and drainage employed which through inattention has lost all germicidal properties, and is thus frequently the nidus of auto-infections. These are the more common means not only of producing infected wounds, but often of re-infection after the original invasion has been controlled. But in the time allotted, the author said it was not possible to pursue the etiology of infection further than to outline some of its general principles. The author then proceeded to a consideration of the pathologic phenomena presented in the development and progress of infected wounds, detailing the symptoms of this class of wounds.

The treatment will depend in a great measure upon the location and condition of the part. In penetrating wounds of the abdomen involving the peritoneum, it is good surgery in most cases to enlarge the opening sufficiently to inspect the injured parts; to surgically correct damaged conditions so far as possible; to gently sponge away all recognizable elements of infection, but to avoid all irrigations with any strong antiseptic solutions, as being likely to spread and disseminate the elements of infection existing. The object is to cleanse locally and to secure the most satisfactory and thorough drainage commensurate with the amount of damage done. The management of penetrating wounds of the thoracic cavity must depend to a great extent upon the evidences of infection presented. If there be a protrusion of the lung in an infected condition, or if portions of clothing or other foreign matter have been carried in, we are undoubtedly justified in enlarging the opening that such foreign matter may be removed, and the surrounding parts carefully cleansed and as thoroughly disinfected as possible, and providing, here as elsewhere, thorough drainage for the suppuration which is so likely to occur by the introduction of drainage tubes covered by a piece of protective, forming a valve to the opening, to prevent the ingress of fresh air. If the cavity is considerable, there should be a counter opening made at the most dependent or lowest portion, in which is also placed a similar drainage tube. The author does not wish it to be understood that this mode of procedure should apply to all cases of penetrating wounds of the thoracic cavity. Bullet and incised wounds were then dwelt upon, as well as the treatment of compound fractures attended with much laceration and evidences of infection.

DR. E. WYLLYS ANDREWS, of Chicago, followed with a paper entitled

THE LAP-JOINT, OR IMBRICATION METHOD FOR THE RADICAL CURE OF HERNIA.

At the outset, the author stated that this interlocking or overlapping principle is not limited to one application, but may be applied to other wounds of the abdominal wall in certain cases which he would not discuss at this time. As applied to curing hernia, it is not intended so much to supplant as to reinforce existing methods, one or two of which are a great advance over those of a few years past, and which Dr. Andrews briefly considered.

For descriptive purposes, he classed all radical cure operations upon inguinal hernia as of two distinct types, namely, the *first* or *early type*, and the *second* or *modern type*. These types were then dwelt upon at considerable length.

The author summarized his remarks with the following conclusions:

A successful method must be a true plastic operation upon the musculo-aponeurotic walls, especially the posterior wall and internal ring. Adhesive peritonitis in the sac walls and cicatricial tissue in the canal are of no permanent value in radical cure.

The advantages of imbrication are:

1. Large strong flap to repair posterior wall.
2. Triplicate layers of aponeuroses increasing strength.
3. Broad surfaces instead of free edges, securing better union.
4. Shortening of anterior wall gives support to the deeper sutures.
5. Cord is amply protected.

DR. EDMUND ANDREWS, of Chicago, read a paper on

SOME OF THE EVILS CAUSED BY WHITEHEAD'S OPERATION FOR PILES, AND BY ITS MODIFICATION, THE SO-CALLED "AMERICAN OPERATION."

Whitehead's operation for piles has been in use about ten years. It was devised by Mr. Whitehead, of Manchester, Eng., and consists in dissecting out the whole lower inch of the mucous membrane of the rectum, and with it all the piles and hemorrhoidal vessels, and most of the submucous connective tissue, leaving the internal sphincter muscle pretty nearly stripped naked. The first incision is a circular one, following the junction of the mucous membrane with the skin, called Hilton's white line, and dissecting up between the veins and the sphincter. Dr. Andrews then exhibited a cut representing the operation at this stage.

He said that certain persons calling themselves "orificial" surgeons, had slightly modified the order of procedure by pulling down the mucous membrane and making the upper circular incision first, and the lower last. They had given the procedure with this trivial alteration the pompous title of the "American operation." A surgeon in Berlin made the same change, but he did not call it the German operation. The principle is the same, namely, the complete removal of the mucous membrane, veins, and most of the connective tissue from the pile-bearing inch of the bowel, the motive being to prevent the possibility of any more piles on that area.

Those who favor Whitehead's method say that it should be used wherever the whole circumference is occupied by the dilated veins. Some eminent authors seem totally ignorant that a cure can be accomplished with ease and certainty by either the ligature or by the clamp and cautery in all those cases. It is never necessary to directly include all the dilated veins in the operation. If about half the height of each pile is destroyed, the intervening varicosities shrink away and disappear.

Dr. Andrews had corresponded with some of the most eminent surgeons both in Europe and in this country regarding Whitehead's operation, and after his rather extensive investigations in this regard, he is on the whole discouraged about Whitehead's method ever becoming a safe and desirable operation. If, however, any one thinks otherwise, and desires to continue its use, he suggests the following precautions: bear in mind that it is never necessary to completely dissect out all the enlarged veins. If considerable portions are removed, the remainder always shrink away; therefore, make the lower incision somewhat above Hilton's white line, even if there are external piles temporarily left below it, and in like manner make the upper incision low down, cutting off the cuff somewhat below the top of the internal piles, thus saving as much of the tactile mechanism of the lower rectum as possible, for the special sense located in this tract is of great importance to the patient's future comfort. Finally, the surgeon should remember the peculiar difficulty of the antisepsis and be diligent accordingly in attempting it.

DR. CHRISTIAN FENGER, of Chicago, made some extemporaneous remarks on plastic operations on the hand to remedy deformities caused by injuries and burns, and exhibited a patient upon whose hand he had performed a successful plastic operation.

DR. J. A. BAUGHMAN, of Neoga, followed with a paper entitled

A CASE OF UMBILICAL HERNIO-LAPAROTOMY, AND AN ENTERECTOMY.

In the first case, a patient 40 years of age, weight 235 pounds had for four years suffered from a painful umbilical hernia of about the size of an orange. The operation was done in the usual manner. Four and a half months after the operation, she returned with a knot the size of a hazel nut, detectable but not visible near the seat of the operation. The author cut down upon it and found it to be an epiploni-phalocele.

The second case was an enterectomy in which eighteen inches of the small intestine were excised.

A PLEA FOR MODERN CÆSAREAN SECTION.

This paper was read by DR. C. P. HARRIGAN, of Chicago. The author prefaced his remarks by saying that craniotomy upon the living fetus is in direct violation of all accepted principles of modern surgery; that it is an irrational unscientific procedure from any standpoint. The author made a strong plea for Cæsarean section, fortifying his position by numerous quotations from leading surgeons. For instance, Professor Lusk said he had had five cases of Cæsarean section; three recovered, and two died. The latter were both kyphotic dwarfs. The operations were not especially difficult. Death occurred at the end of a week from feeble vitality due to undeveloped lungs and heart. In one case, the former weighed but eleven ounces, the latter about five ounces. The mortality in kyphotic patients has been unduly great. Dr. Joseph Price says, "that craniotomy should only be performed upon dead children and monstrosities. Upon healthy children it should never be resorted to." Price urges Porro's operation for prophylactic reasons.

Section III.

Section on Etiology, State Medicine and Medical Jurisprudence.

Chairman, Dr. Sanger Brown, Chicago.

Secretary, Dr. William Barnes, Decatur.

The address of this Section was delivered by Dr. Joseph J. Kinyoun, U. S. Marine-Hospital Service, Washington, D. C. Dr. Kinyoun selected for his subject

The management and control of infectious diseases in municipalities.

His object was not to enter into a discussion of all the details incident to the control and management of disease in municipalities, but to confine his remarks to a consideration of a class of diseases known as infectious or contagious.

Cholera was dwelt upon at considerable length. Some of the acutely epidemic diseases had in the past been indirectly conducive of great good to our present civilization. Cholera had pointed out the danger from polluted water, and had been largely responsible for a pure or better water supply for our cities. By way of contrast, typhoid fever and tuberculosis were cited as examples. If we compare the mortality of one of these with that of cholera, the difference is strikingly in favor of cholera.

A few cases of yellow fever in one of our Northern cities would not, in the present state of our knowledge, be a menace. It can be easily managed. Disinfection of the infected apartments and their contents will be all that is required.

Typhus fever, while resembling in many respects yellow fever, differs materially in the manner of its spread. It is a house disease, and is due to unsanitary conditions for its propagation. It is far easier to handle than yellow fever.

Smallpox appears even at the present time to be the *bete noir* of our civilization. There is no necessity for the existence of this disease, said the author, at the present time, if the least common sense were exercised in regard to it. We know of the beneficent effects of vaccination and revaccination, and still we have plenty of it in our midst.

From experiments made by the author he was of opinion that the great mortality from smallpox would be reduced by serum therapy.

Tuberculosis was next considered, the author saying that there was no city, village or hamlet which escaped its ravages. Tuberculosis, as now understood, is an infectious disease, its specific agent being a bacterium which is thrown off in the discharges of those affected with it. It is highly communicable from one person to another.

Typhoid fever may or may not be considered epidemically an infectious disease. It depends entirely upon the channels of infection and the conditions of environment. If the disease is contracted through a water supply, be it a well, or from a general supply, the importance of its recognition is unquestioned.

Diphtheria. Nearly every municipality which has seen fit to promulgate regulations for the control of infectious diseases has given prominence to the control of diphtheria. It is preëminently a disease of communal life. The fact of its attacking the young makes it more to be dreaded as a school disease. The author then dwelt upon the methods of making cultures in cases of suspected diphtheria, and considered the following subjects *seriatim*—notification, disinfection, house disinfection, preventive disinfection, and ambulance.

Dr. N. S. Davis, of Chicago, read a paper entitled

The present status of bacteriologic investigations and their relations to etiology and therapeutics.

The two leading facts which Dr. Davis desired to emphasize in his paper are: 1, the constant tendency on the part of the profession to draw hasty conclusions from incomplete investigations; and, 2, the failure to hold fast what appears well established in the past until the actual bearing of new facts or discoveries can be fully ascertained. In no other field of investigation is there so much caution and patience required as in that of therapeutics or the direct application of remedies in the treatment of disease. And there are certain well-established facts that must be constantly kept in mind by every investigator if he would avoid error:

1. It must be remembered that all acute, zymotic and epidemic diseases are self-limited in duration. That is, they are either cured or kill the patient within a limited period of time. Each case has its initial stage of development, of active progress, culmination and decline; because the physiologic processes of every living body tend to either destroy or eliminate every disturbing agent that has found entrance into it. Therefore, the first step in all reliable therapeutic study is to know the natural tendency of the disease we propose to treat, the average duration of each stage and, if possible, the natural processes or channels through which the offending cause is destroyed or eliminated. Without such knowledge of the disease, all exhibition of new remedies is only blind chance experimentation, and as likely to hinder or embarrass the natural processes as to facilitate their beneficial work.

2. In comparing the success or beneficial effects of one remedy with another, it must be remembered that all acute diseases vary in their severity and fatality in different years, in different localities the same year, and in different individuals in the same locality. Also, that all epidemics are less fatal during the period of their decline than at the period of invasion. Consequently, the real value of no treatment can be determined until it has been tested by many persons, at different periods of prevalence of the disease, and at different stages of epidemic progress.

3. It is necessary to know the nature and actual *modus operandi* of the remedy we propose to use.

Finally, when a microörganism, ptomaine, or toxin is found in connection with any disease, the first question to determine is, Does it stand in the relation of a cause or an effect of the morbid processes constituting the disease? These are fundamental propositions, without observance of which we are constantly led into erroneous conclusions and contradictory results.

Dr. George H. Weaver, of Chicago, read a paper on

The bacteriologic diagnosis of diphtheria; the need of its general use and its technique.

The author emphasized the importance of a bacteriologic examination of all cases of sore throat in which there is any pseudo-membranous formation, and of every sore throat, even if no such formation is present, in case children are liable to exposure.

The most important reasons for having a correct diagnosis may be stated as follows:

1. The treatment of the individual case would be modified by it. The diphtheria antitoxin is useful in only such cases as are caused by the diphtheria bacillus, and as it is not certain that it is absolutely harmless, it should, for the present at least, be used only after a positive diagnosis, except in very urgent cases.

2. The finding of the diphtheria bacillus would necessitate an absolute isolation of the patient, however mild the attack, until virulent bacilli were no longer present. The virulent bacilli persist in the throat and nasal cavities after apparent recovery and disappearance of the pseudo-membrane, for weeks at times, and the only way to rationally limit the period of isolation is to insist upon its continuance until all possible danger of contagion is past—until virulent bacilli are absent. If diphtheria bacilli are not found, there is little or no danger of contagion, and isolation is not demanded.

3. The disinfection which should follow in cases of true diphtheria, is thorough and complete, while in the case of false diphtheria it is unnecessary.

4. In the absence of a positive diagnosis by bacteriologic methods, at least every case of sore throat showing any pseudo-membrane should only be consistently managed by treating it as a case of diphtheria.

Dr. Weaver then discussed the questions of how the methods required may be adapted to various conditions of population, and the technique to be employed in each case.

Dr. D. D. Bishop, of Chicago, read a paper entitled

General microscopic examination of the blood.

When making an examination of blood in hospital practice where one has the apparatus necessary for a complete study, the author says the following observations should always be made:

1. A count of the number of red and white corpuscles per cubic millimeter.

2. An estimation of the percentage of hemoglobin present.

3. A cover-slip preparation of fresh blood is examined concerning the following possible conditions: (*a*), apparent changes in the color of the red blood corpuscles; (*b*), changes in the size of the red blood corpuscles, noting whether there be present corpuscles much smaller than normal, microcytes, or those larger than normal, macrocytes; (*c*), changes in the form of the red corpuscles, poikilocytes; (*d*), the presence or absence of Laveran's organisms of malaria; (*e*), a number of spread cover-slips are then taken and preserved for subsequent examination by the color test, as recommended by Ehrlich.

The Thoma-Zeiss blood counting apparatus is used in esti-

mating the corpuscles. The hemoglobin estimate is performed by means of Von Fleischl's hemometer.

Though much has been done by Schultz, Bizzozero, Hayem, Osler and others, in the histology and pathology of the blood, by the study of fresh specimens, it was left to Ehrlich to introduce in 1878 the method of staining cover-slip preparations, which Dr. Bishop then described.

DR. J. L. WIGGINS, of East St. Louis, followed with a paper entitled

INFLUENCE, RESPONSIBILITY AND PROFESSIONAL DUTY OF THE PHYSICIAN IN MATTERS OF PUBLIC HYGIENE AS RELATED TO MUNICIPAL GOVERNMENT.

Sanitary science broadens out and fills one with wonder as he contemplates the vastness of its application. It is difficult for us to say just when to leave off and in what manner to enforce rules to the end that the community can be protected, and still retain the rights of the individual. Shall the State undertake to say when and where we must bathe? What we must eat or drink? The kind and texture of our clothes? Hardly, yet the State has certain duties, and to the degree in which these are observed will she prosper. The first and most necessary condition is in the selection of a capable and educated sanitary officer. Each community of 10,000 should have a health officer or an assistant. By this means the average of life would be raised and death and sickness reduced to a minimum.

DR. A. C. CORR, of Carlinville, read a paper entitled

EMASCULATION AND OVARIOTOMY AS A PENALTY FOR CRIME IN THE REFORMATION OF CRIMINALS.

This paper formed the basis of a symposium of contributions which were read at the last annual meeting of the Society, and the various propositions contained in them were taken up and discussed *seriatim*. Dr. Corr said that the criminal defect is often a mental complex, a bi-product of apparently normal mental conditions of ancestors, neither of which were criminally inclined. To have been inherited, it must be a like trait to that which was exhibited in the ancestors, one or the other. He is acquainted with the Harry Hayward family on both sides, but they were not criminals. He is also acquainted with a Methodist minister who had been a presiding elder; he and his wife are amiable people, and above reproach, yet their two sons are both criminals. Some families are all criminal but one, and where is the flock without a black sheep?

The following officers were elected:

President, Dr. D. W. Graham, Chicago.

First Vice-President, Dr. J. M. G. Carter, Waukegan.

Second Vice-President, Dr. T. J. Pitner, Jacksonville.

Permanent Secretary, Dr John B. Hamilton, Chicago.

Assistant Secretary, Dr. J. R. Hoffman, Ottawa.

Treasurer, Dr. George N. Kreider, Springfield.

Members of Judicial Council, Drs. J. F. Percy, of Galesburg; J. O. DeCourcy, St. Libory, and Carl E. Black, Jacksonville.

Chairman of Section I, Dr. J. F. McAnally, Carbondale; Secretary, Dr. C. W. Hall, Kewanee.

Chairman of Section II, Dr. J. H. Coulter, Chicago; Secretary, Dr. L. C. Taylor, Springfield.

Chairman of Section III, Dr. H. N. Moyer, Chicago; Secretary, Dr. W. R. McKenzie, Chester.

Next place of meeting, Ottawa, third Tuesday in May, 1896.

Committee of Arrangements, Drs. J. W. Pettit, T. W. Burrows, E. H. Butterfield and E. W. Weis, of Ottawa.

Committee on Necrology and Biography, Drs. J. H Hollister, Chicago; O. B. Will, Peoria, and E. J. Brown, Decatur.

Committee on Medical Legislation, Drs. C. C. Hunt, Dixon; B. M. Griffith, Springfield; J. B. Maxwell, Mt. Carmel, and the President, *ex officio*.

Committee on Medical Societies, Drs. E. J. Brown, Decatur; Jacob Schneck, Mt. Carmel, and W. S. McClanahan, Woodhull.

Medical Society of the State of Pennsylvania.

Proceedings of the Forty-fifth Annual Meeting held at Chambersburg, Pa., May 21, 1895.

[Special correspondence of the JOURNAL.]

(*Continued from page 893.*)

THE ADDRESS IN OBSTETRICS

was given by DR. W. B. ULRICH of Chester. After alluding to the origin of this appointment he spoke of the value of the papers under this head which had been presented. He held to the opinion that labor is a purely physiologic function; there is no unnatural labor. He divided labor into ordinary or uncomplicated, and exceptional or difficult labor The first comprise nine-tenths of all, needing simply cleanliness and as little interference as may be. Normal may be converted into pathologic by too frequent examination. Laceration may be caused by the desire to hurry things. In the majority nature is competent, needing no assistance. The woman can not be compared to a case of amputation, with the expectation of blood poisoning, needing vigorous antisepsis to prevent it. Otherwise how could the human race have survived all these dangers? How about savage races, with their barbarous methods? He is also opposed to instrumental delivery to suit the convenience of the physician. We should learn when not to use the forceps. Traumatism may result and a dangerous train be fired. Consider only the patient. The duty of the obstetrician is cleanliness or asepsis. He believed with the old country doctor, who boasted that plenty of lard and a good deal of patience were all the instruments he wanted. He insisted upon the usefulness of a warm soap and water bath at the beginning and a douche to cleanse the birth canal, especially if the patient does not seem cleanly, yet was opposed to repeated douchings and irrigation of the uterus after labor, except where absolutely indicated to overcome an actual septic state, due to retained placenta, etc. Chemic disinfectants are not required and their routine use is to be deprecated. On the other hand, he commended the practice of rendering the hands of the obstetrician and all instruments used by him as aseptic as possible by the abundant use of soap and hot water. Follow this by a rinsing with solution of bichlorid 1 to 2000. Thus puerperal septicemia may be eliminated. By this plan Dr. Joseph Price claims that he has not had a case in nearly 10,000 labors. Again we may thus abolish ophthalmia neonatorum. Three-fourths of the blind asylums might be closed. He did not attempt to give a record of his cases, but in a practice of forty-six years his obstetric cases had run into thousands, yet he had never had a dozen sore eyes, and not a single infant had lost its sight. He had never lost a case in labor. He alluded to the law framed by a committee of this society to prevent blindness, making it incumbent upon midwives, etc., to see that an infant with sore eyes shall receive prompt attention that its sight may not be lost. He approved of this, but still considered prevention better. Absolute cleanliness in the conduct of labor is conducive to the best interests of both mother and child. He frowned on the fad of routine use of anesthetics in labor. Who can tell the effect of these pains, the result of Nature's force? Anesthetics, the hasty removal of the placenta are fruitful of post-partum hemorrhage, and of asphyxiated infants. Unless there is good reason, the ergot should remain in the bottle, as well as the castor oil, quinin and the malt liquors. Let well enough alone.

Meddlesome midwifery is bad; so is officious medicine giving. In case of eclampsia at term, and in placenta previa requiring rapid delivery he spoke highly of the method of rapid manual dilatation and delivery of Dr. P. A. Harris of Paterson, N. J., first described in the *American Journal of Obstetrics* last year. Dr. Harris reported his experience in placenta previa and eclampsia; that in all cases there were no labor pains or partial dilatation before he attempted delivery; he had not lost a single case. Since the introduction of asepsis, symphysiotomy has been revived and is largely practiced with increasing success. He quoted from the paper of Dr. Fox of last year and also from Dr. Harris of Philadelphia, who is now enthusiastic for this operation. He described the operation as performed by Professor Farabouef. The woman is placed in the dorsal position, thighs abducted, flexed on the abdomen, the pubic region shaved, this and the adjacent parts washed with soap and water, then with sulphuric acid, finally with bichlorid solution. The patient is fully anesthetized, catheterized and a vaginal douche given. The length of the incision varies with the length of the symphysis; it must be made vertically, midway between the two pubic spines, beginning at the level or a little above the superior border of the symphysis, descending to its inferior border, deviating in the region of the clitoris without touching superior part of the vulva. Then cut through all the soft parts down to the cartilage not stopping to seize vessels. Then upon the index acting as a guide, with the scissors divide the fibro-cartilage at the level of the anterior surface and superior border of the symphysis. Then we make two small incisions transversely, beginning at the median line close to the superior border of the symphysis in such a way as to cut through the aponeurotic tissues in order to make a passage for the index, which is then introduced along the posterior surface of symphysis. The finger then feels very well the posterior prominence of

the fibro-cartilage of the symphysis. Left in this position it serves as a protection to the organs lying posterior to the symphysis. With a straight scalpel, begin cutting the cartilage from before backward and from above downward, and finish the section by means of a blunt-pointed bistoury. At the moment of cutting the sub-pubic ligament, by means of a sound in the bladder the assistant pulls the urethra out of the way. The incisions through the cartilage are kept up as long as the knife continues to creak, for the latter indicates the resisting cartilage and ligaments giving way. Finally the iliac bones in a measure separate. The assistants now practice slow and progressive abduction of the thighs. The cartilages separate, one, then two fingers are introduced. Experience teaches no damage can be done to the articulations by a separation of 7 centimeters. When this is reached, the assistants are warned not to move and a tampon is placed in the wound, either of sponge, cotton or iodoform gauze. We now extract the fetus, apply the forceps and pull; the head descends, separating the pubis if not already sufficient. Do not exercise too much force. Let the head rotate. Now Dr. Varnier, in order to protect the vulva, etc., has the assistants approximate the thighs causing the iliacs, etc., to resume the normal position, and the head is delivered without injury to the inferior osseous and muscular straits or vulvar orifice.

The operation is terminated; a vaginal injection is given, the placenta removed, the vagina packed with gauze and next the pubic wound is cared for. The tampon is removed, the wound irrigated with a 5 per cent. carbolic solution, the assistants approximate the iliacs by continued pressure on the hips and the operator sutures the tissues with two or three buried sutures, and as many as needed to keep the parts in apposition. The wound is covered with gauze and absorbent cotton. A tight bandage is placed around the pelvis, this covered with a second, in the form of a T. A third supports the parts and for this plaster-of-Paris is used. This is applied in an oblique position to leave the pubic region free and for future dressings and these must be removed as soiled, at least twice a day, for they are always soiled at micturition. The vaginal dressings may be allowed to remain two or three days as it insures antisepsis of the vagina, and we can dispense with the injections otherwise needed. The limbs must be immobilized by strapping. About the eighth day the wound has cicatrized. Often the edema has caused the sutures to cut through. These may be taken out at the rate of one or two a day.

This operation saves the child, with a minimum of danger to the mother. It is far preferable to the Cæsarean operation or craniotomy.

In concluding, he alluded to labor delayed by unusual positions. He had not found it an easy task to change a malposition. With the present asepsis, we should more commonly resort to the effort to change vertex posterior into anterior. For many other treatments, in complicated labor, special training and sound judgment are needed. In conclusion, he made a plea for careful diagnosis, and not too much zeal for manual and mechanical interference.

Dr. T. J. Mays, of Philadelphia, read a paper on "Fat in Pulmonary Consumption." Fat is one of the most important constituents of the body. It always diminishes in pulmonary consumption. It is a special secretion and is manufactured out of carbohydrates, proteids and fats, but for fattening purposes proteids and carbohydrates are superior to fats and oils, and therefore the latter are over-rated in the treatment of consumption, although valuable adjuvants. It is also shown that resting the invalid promotes the formation of fat, while exercise retards it; that in all probability the production of fat is under the control of the nervous system and that strychnin through its stimulating influence on the nervous system fattens the consumptive and increases the number of his white and red blood corpuscles. He gave short abstracts of the histories of fourteen patients, who were treated in accordance with the principle advocated here, which show a total increase of 350 pounds, or an average gain of nearly 22 pounds.

"Ligation of Arteries in Malignant Disease," was read by Dr. John H. Packard, of Philadelphia. He spoke of the limitations of surgical treatment of malignant disease, of the conditions causing suffering and demanding relief, then of the dangers; finally he detailed the conditions under which the ligation of arteries may be available to afford relief, or facilitate further treatment. He concluded by quoting cases which appeared to uphold his method by the good results obtained.

Dr. Jane K. Garver, of Harrisburg, read a paper on "Heredity," which was an effort to show something of heredity and its power in the causation of insanity; something of the increase of the same as shown by statistics, with her view of the reasons for that increase, as well as the desirability of inaugurating new methods in the prevention of insanity.

Dr. H. G. McCormick, of Williamsport, presented a paper on "Management of Cases of Typhoid Fever." He had employed guaiacol with most excellent results.

"Labor complicated with Typhoid Fever," was the title of a paper by Dr. W. M. Findley, of Altoona. Case was taken ill three months prior to accouchment with the usual symptoms of high range of temperature, etc. As there were three other cases in the house, the case was an undoubted one. Progress of disease was normal but severe. In due time labor set in at full term, second birth, vertex position. The bowels became much relaxed, evacuations frequent and copious. By the liberal use of stimulants and application of the forceps, labor was terminated in four hours; child alive. Mother made a good recovery; child was minus the epidermis as though parboiled, but is living at the age of 21 years, though not strong.

Dr. T. Diller, of Pittsburg, read a paper on the "Influence of the Mind in the Treatment of Disease."

On motion of Dr. J. Roebuck, of Lititz, it was resolved to send delegates each year to the Pennsylvania Pharmaceutical Society.

On motion of Dr. S. Solis-Cohen, the exhibition of drugs was to be restricted to the pharmaceutic preparations known as to their ingredients, etc.

In the evening the session was resumed at the Wilson College for Young Ladies. After some musical entertainments Dr. John B. Roberts delivered the Presidential Address. His subject was

THE PRESENT ATTITUDE OF PHYSICIANS AND MODERN MEDICINE TOWARD HOMEOPATHY.

This address presented in a semi-popular manner the differences between modern or rational medicine, and homeopathy, quoting the definitions given by standard dictionaries.

Homeopathy, as advocated by Hahnemann, was described as a school of medicine, while non-sectarian medicine was designated as a science, since it is in no way founded upon a theory or hypothesis, but the result of investigation of chemic, physiologic and physical facts. The reasons were given which prevent the physicians who subscribe to no dogma from accepting the doctrines of Hahnemann. The statement was made that many physicians who are called homeopathists are not believers in all of Hahnemann's theories. Long quotations were made from Hahnemann's "Organon," and recent homeopathic writers. These quotations showed that there are still some homeopathic physicians who believe in the increase of drug power by diminishing the dose, and in the efficacy, as a means of treatment, of the so-called universal and infallible law of "similars." The attitude of physicians who accept no sectarian name was said to be a dual one. Some of them hold that homeopathists who do not believe in the universality of Hahnemann's law should make a public formal statement before being admitted to the right of consultation with members of the non-sectarian medical organizations. Others believe that the profession and the public would be benefited if a graduate of a homeopathic college or a member of a homeopathic society, who simply indicates his willingness to treat patients by all means, should be admitted to the rights of consultation.

The author did not indicate to which of these classes he belonged. The paper was not written in a controversial spirit, but seemed to indicate that the author desired to permit the hearer to draw his own conclusions as to the relative merits of the case.

The sessions were resumed at 9 A.M., Thursday.

Dr. F. X. Dercum, of Philadelphia, delivered the

ADDRESS IN MENTAL DISEASES.

The peculiar position which insanity has occupied in the past, in the minds both of the laity and of medical men was first dwelt upon, and also the further fact was emphasized that the first attempts to provide for the insane were purely of a practical and utilitarian character and embraced little more than the isolation and housing of the insane. The present status of the pathology of insanity was then taken up. The speaker alluded to the researches of Golgi, Raymond y Cajal, and especially to the investigations of Lloyd Andriezen. It was pointed out that through these labors the structure of the normal cortex was at length being revealed and further that, as Andriezen had shown, we were now in a position to correlate symptoms with change of

structure, at least in certain forms of insanity, for example, alcoholism. In the latter disease there are not only evidences of gross and general nutritive changes in the cell bodies, but also alteration and destruction of the fine naked collaterals and nerve terminals of the molecular layers of the cortex. These changes explain the diminished sensitiveness of the alcoholic subject to impressions from without and also the general loss of memory and lack of association of ideas. Here was the first instance in the history of insanity in which it has been possible to correlate, closely, structural change and symptom. It was, however, pointed out that while such results are sufficient where the poison producing the changes is definitely known, microscopic examination can not give us all the information that we desire when the initial cause is not known. At most, it can only reveal to us the effects of preëxisting causes, and leaves us in the dark as regards the causes themselves. This fact led to the consideration of the subject from another aspect. The conviction is steadily growing in the medical mind that the actual agents which produce tissue changes are chemic toxic substances of one kind or another; some of them absorbed or ingested from without, others the poisons produced by altered tissue metabolism and others, still, the poisons elaborated by bacteria. The evidence upon this subject was briefly reviewed, especially with reference to the toxicity of the blood, the urine and other tissues in various conditions. The toxic substances themselves were classified as follows:

1. Those which though normal to the blood and urine in certain quantities, become toxic when in excess. In such conditions there is an intoxication of the nervous system from the mere accumulation of tissue waste.

2. Substances which are present in the various diathetic insanities, some of which in small quantity are normal to the urine, while others are entirely new and foreign.

3. Substances which result from disordered visceral action. Regarding these we have but little definite information. Enough is, however, known regarding the diseases of the kidney and diseases of the liver to indicate that the insanities associated with these conditions are in all probability the result of auto-intoxication.

4. The toxic substances absorbed from without (excluding all poisons ingested as such). From much that we know we have reason to infer that in certain pathologic conditions poisons are formed in the stomach and intestines which react profoundly upon the nervous system.

5. Toxins which are elaborated by bacteria.

The various intoxications of the nervous system resolve themselves into two great groups, first, the auto-intoxications properly speaking which embrace, first, the substances normal to the blood and secretions but present in excess; then, those substances due to general disturbance of tissue change which we meet with in diathetic conditions; and, last, the poisons formed by the disordered action of special viscera.

In the second group we have those substances absorbed from the intestinal tract, some of which are produced by disordered chemic action and morbid fermentation, and others which are normally excreted by the intestinal tract but now re-absorbed; then we have the poisons which are the direct results or accompaniments of infection. It was further pointed out that the various symptom groups which we recognize as forms of insanity may result from the most diverse agents.

A plea was then made for the establishment of laboratories in hospitals for the insane, in which not only microscopic studies based on the methods of Golgi, Cajal and Andriezen might be made, but in which also the chemistry and the physiologic action of the various toxic substances existing in the blood, urine and tissues of the insane could be experimentally studied. Such investigations would be of great practical importance. They would enable us in the first place to treat insanity more intelligently, and indirectly would diminish the expense of the maintenance of the insane by the State.

DR. S. SOLIS-COHEN, of Philadelphia, gave in detail the "Modern Method of Diagnosing Gastric Lesions."

DR. G. G. GROFF, of Lewisburg, on "Typhoid Fever and its Relation to Filth," showing the great need of more care as to the contamination of wells, cleanliness in the dairy, etc.

DR. EDWIN ROSENTHAL, of Philadelphia, read a report of a

SERIES OF CASES OF LARYNGEAL DIPHTHERIA (SO-CALLED MEMBRANOUS CROUP) TREATED BY ANTITOXIN, WITH AND WITHOUT INTUBATION.

After brief mention of the historical discoveries in bacteriology leading to the latest method of treatment, he gave a summary of his work. He divided the cases into two groups: one upon whom the operation of intubation was performed, and another group where this operation was not a necessity. In those cases—nine in number, treated without intubation, all recovered. In those cases—eleven in number, treated with intubation, two died and nine recovered; making a mortality of 18 per cent. Combined statistics before the advent of antitoxin, in cases treated by intubation showed a mortality of 72 per cent,; that is, 28 recoveries in 100. Dr. Rosenthal's own statistics in a former paper showed a mortality of 62 per cent., 38 recoveries in 100. In juxtaposition to this, the combined statistics of antitoxin treatment have shown a marvelous reduction in the death rates. Dr. Rosenthal's work was mostly done with Behring's antitoxin though he has used Aronson's, Gibbier's, and McFarland's antitoxin; almost all his cases recovering makes their value equal. The German antitoxin, however, brought quicker reaction than the domestic, and for that reason was superior. Dr. Rosenthal's conclusions are: antitoxin is a specific in diphtheria. In early cases, those seen in one or two days after infection, no death rate should be recorded. In laryngeal diphtheria (the so-called membranous croup) antitoxin is especially indicated. It should be used in every stage or date of the disease no matter how late we see the case; its influence can be proved, for cases of laryngeal diphtheria perish from suffocation long before any toxic symptoms could be manifested. For that reason he strongly urges the necessity of prompt intubation when indicated, even before the injection of the antitoxin. Regarding the use of antitoxin he said: Do not delay or hesitate in this disease because the case is not so bad, or because it might get well without it; but use it at once—the earlier its use, the more certain its success.

DR. HARRISON ALLEN, of Philadelphia, read a paper on

ADENOID GROWTHS OF THE PHARYNX.

In addition to the symptoms ordinarily associated with hypertrophy of the adenoid growth, Dr. Allen described a group of cases in which the obstruction is due, not to a growth being larger than normal, but to a congenitally narrowed naso-pharynx. He laid especial stress upon a third group of cases. For these he proposed the name "adenoid disease," and claimed that it does not excite mischief by reason of its influence, in any way, upon the functions of respiration, or excite catarrhal disease, but that its effects are noted entirely upon the general nutrition of the patient which is always abnormal. He suggested that the relation of these phases of ill health belongs to the same group of diseases with acromegaly and myxedema. He invited attention to the advisability of studying the adenoid mass in connection with the pituitary body and pineal gland, and made the request that in all cases of death of children, who are known to suffer with adenoid growth in addition to the cause of death, that the base of the skull embracing the pituitary body and the adenoid of the pharyngeal vault be removed in a single piece and prepared in the usual way for microscopic examination.

DR. F. S. NEVLING of Karthaus read a paper on the "Alcoholic Bath in Eclampsia and Suppression of Urine."

DR. H. F. HANSELL of Philadelphia, read a paper on "A Clinical Contribution to the Study of the Relation of Convergence to Accommodation." This was a report of a case of divergent strabismus of many years' standing, in which binocular fixation was impossible without the sacrifice of clearness of distant vision. Each eye was practically emmetropic and had no organic defect and either could be used in fixation. There was no assignable cause for the anomaly. The interest of the case lies in the transient power of binocular fixation accomplished only by conscious effort and with the simultaneous contraction of the ciliary muscle by which myopia of 3.5 D. was invariably acquired, to disappear immediately when the divergence of the optic axes was restored. The association of the function of the accommodation with that of convergence where the primary stimulus is directed to the interni instead of the ciliary muscle is thus demonstrated, just as, reversely, normal contraction of the accommodation induces normal convergence and pathologic contraction pathologic convergence, instances of which are exceedingly common and indisputable.

DR. BENJAMIN LEE of Philadelphia, presented an abstract of a paper on the

EMOTIONAL BRAIN.

A recent novel which has commanded general attention contains a vivid picture of a somewhat unusual case of nervous disease. It is very boldly drawn and with few strokes, the description being not that of a scientist but of an acute

lay observer. I give it principally in the author's words: "A gifted young artist, little more than a boy, of a temperament sensitive, emotional and high strung, receives a sudden and terrible shock, in the loss of the woman whose love he has just succeeded in winning, and whom he in turn loves to distraction. An outburst of stormy and semi-maniacal rage followed the discovery." . . . "And finally he gasped, screamed and fell down in a fit on the floor." . . . "Little Billee's attack appears to have been a kind of epileptic seizure. It ended in a brain fever and other complications—a long and tedious illness. . . . At the end of a few months spent in his native village, his health returns, he takes his part in the social life of the village, and awakes one morning to find himself famous, his pictures painted while he was in Paris having achieved a distinguished success." . . . "But one thing constantly preoccupied and distressed him—the numbness of his affections." . . . "It was as though some part of his brain, where his affections were seated had been paralyzed, while all the rest of it was as keen and active as ever."

His own diagnosis of his case occurs in a monologue held with an amiable dog of the name of Tray. "Wait," he says, "till you get a pimple inside of your bump of — wherever you keep your fondness, Tray. For that's what's the matter with me—a pimple—just a little clot of blood at the root of a nerve, and no bigger than a pin point." Thus much for the clinical picture. What shall we say as to the diagnosis made by the patient? To a certain extent it is correct. There is a lesion of an important nerve center. It may be, in his unscientific language, "a spot, or knot, or a blot, or a clot." We often come no nearer an accurate description of a pathologic condition which is paralyzing this nerve mass. But he mistakes in locating it in either the cerebrum or the cerebellum. For every human being has two brains; a thinking brain and a feeling brain; a rational brain and an emotional brain; a brain which ponders, and calculates, and schemes, and records impressions of the outer world; and a brain which loves and hates, rejoices and grieves. The rational brain is situated in the cranium; the emotional brain in the abdomen. In common parlance we speak of their respective functions or manifestations or resultants as mind and heart. As anatomists we know that the heart, being simply an ingenious pump, has nothing to do with the case —any more than "the flowers that bloom in the spring." The particular viscus from which the affections emanate and which was the seat of Little Billee's malady, is the solar plexus, composed of the two semi-lunar ganglia, with the wonderful interlacement of nerves and tissues and ganglionic enlargements which bind them together, and at the same time associate them with the sympathetic and cerebro-spinal nerves and ganglia. The old anatomists showed a correct appreciation of its importance in naming it the solar plexus, for it is indeed the sun of the system, radiating light, warmth and joy to its remotest parts.

What do we know of this important organ? Little enough. It is probably safe, however, to attribute principally to its abnormal action or condition, three, by no means uncommon and very intractable affections, hysteria, melancholia, and hypochondria. Of acute diseases the only one which we can reasonably consider as directly affecting the solar plexus is epidemic influenza, and I know of no other way of accounting for the protean manifestations of that malady, and for the profound and abject despair which is so constant a manifestation of it.

If we know little of the pathology of this organ, we know still less of its therapeutics.

Physics, rather than physic, however, must furnish our armamentarium for the treatment of disorders of this important nerve center. The imponderables—light, heat, electricity, and that which includes, involves and evolves them all, motion, are the agents on which we must place our main dependence.

Motion is administered in the form of exercise in its ordinary sense, of Swedish movements and of massage. In cases in which the patient is unable to take the ordinary exercise, the movement cure provides an admirable substitute, affording us the advantage of exercise without the expenditure of nerve force. This should always be accompanied by massage, and, indeed, in a large number of cases the latter alone can be resorted to. Its application includes the four well-known divisions of kneading, stroking, friction and percussion, which should be varied to suit the requirements of each particular case. The form known as vibrations is of special service in these conditions. They may be applied either by the hand of the manipulator or, much more effectively by means of a machine constructed for the purpose. In this way, vibrations of excessive rapidity may be communicated to any part of the body for any required length of time. The abdomen, epigastrium and dorsum are the proper points for application in the affections under consideration. This therapeutic means produces a profound impression on the nutrition and the cellular activities of the nervous tissues, and should therefore, like galvanism be used with caution and discretion.

My object in bringing this subject before the society has been to call attention to a neglected and, as I believe, fruitful field of research, and to urge upon those who have the time, the facilities and the training, the importance of losing no opportunity of prosecuting microscopic and laboratory investigations into the pathology and the cellular affinities of the great solar plexus.

"A Contribution to the Study of Deaf-mutism," was given by Dr. A. A. Bliss, of Philadelphia. An examination of the ears, together with a study of the personal and family histories of 546 deaf mutes, pupils in the Pennsylvania Institution for the Deaf and Dumb, indicates that strictly congenital deaf-mutism is a far from common condition. On the contrary, the finding in this large series of cases indicates that loss of hearing in the majority of instances resulted from inflammation of an early infancy origin. Resulting from such processes we find three conditions of the ears: 1, a slow, non-suppurative, sclerosing process, which has immobilized the sound conducting apparatus; 2, a condition of sclerosis after suppuration, the drum head being destroyed in varying degree and the mucous lining of the tympanic cavity changed to a dermoid or fibrous tissue; 3, a suppurative process, still active, which has caused simply a chronic otorrhea without much loss of tissue, or may have caused total destruction of the drum head, exfoliation of the ossicles, necrosis of the tympanic wall and the development of cholesteatoma. Consanguinity of parents must be recognized as a causative element in deaf-mutism, but is not peculiar in any special liability to cause serious affections of the ears in the children of such unions. In such instances, deaf-mutism is simply one of the manifestations of physical degeneration, just as phthisis, idiocy, epilepsy, cretinism, insanity and functional or organic abnormalities in the cerebro-spinal or lymphatic systems may also be manifestations of a physically degenerate race. The examination, in addition, indicated that a tendency may exist in certain families to develop aural disease attended with deafness more serious and profound than would commonly follow such conditions in more normal individuals. Thus one-fifth of the entire 546 pupils had deaf-mute relations, and in some instances belonged to families all of whose members were deaf mutes. The results of the examination favor the belief that in a vast number of instances the recognition of otitis media, originating primarily or as a complication in other diseases, occurring in infancy or in early childhood, and the proper treatment and after treatment of this aural condition, would have preserved the hearing of many of the 546 pupils and would have saved them from becoming deaf mutes.

(To be continued.)

Rhode Island State Medical Society.

Eighty-fourth Annual Meeting held at Providence, R. I., June 6.

The meeting was called to order by Dr. Robert F. Noyes, and the recording secretary, Dr. W. R. White, announced as the result of the annual election of officers the following:

President—Elisha P. Clark, Hope Valley.
First Vice-President—William A. Gorton, Providence.
Second Vice-President—Francis H. Rankin, Newport.
Recording Secretary—Frank L. Day, Providence.
Corresponding Secretary—George D. Hersey, Providence.
Treasurer—George L. Collins, Providence.
Censors—J. W. C. Ely, Benjamin Greene, Eugene Kingman, J. H. Morgan, G. W. Jencks, H. G. Miller, W. R. White, F. H. Rankin.
Board of Examiners—Franklin M. Eaton, Fred T. Rogers, Herbert Terry, Frank L. Day, John W. Keefe.

STANDING COMMITTEES.

Of Arrangements—E. F. Walker, J. W. Keefe, F. E. Peckham.
On Publications—G. D. Hersey, C. M. Godding, G. T. Swarts.
On the Library—H. G. Miller, G. D. Hersey, G. W. Porter, G. L. Collins, F. L. Day.
On the Museum—W. J. McCaw, G. T. Swarts, F. B. Fuller, C. M. Godding, S. A. Welch.

On Necrology —E. Kingman, C. H. Leonard, H. C. Miller. Auditor—F. H. Peckham Jr.

DR. GEORGE L. COLLINS presented the annual report of the Trustees of the Fiske Fund, giving a record of the meetings held and the financial condition. The amount of the fund is $9,532.58, and the amount at the disposal of the committee is $959.52. No premium has been awarded this year, as no essay has been received. The subject proposed for 1895 is "The Etiology, Pathology and Treatment of Diseases of the Prostate Gland." The premium offered is $300.

The society decided that Providence should be the place of the next meeting.

The deaths of Peter H. Madden of Woonsocket and Frank L. Forsyth of Providence were announced.

DR. T. D. CROTHERS of Hartford, and DR. E. H. DAVIS of Plainfield, were introduced as delegates from the Connecticut Medical Society. They spoke briefly. Dr. Newman of the New York Society was also introduced.

DR. WHITE read the report of the censors' meeting held earlier in the day.

DR. CHARLES H. LEONARD opened a discussion on the nutrition of the very young child. Dr. J. W. Mitchell followed.

DR. FREDERICK T. ROGERS read the essay entitled "Humbug as a Therapeutic Agent." He showed that superstition had ever had an important effect on human affairs. Likewise, medical theories, now exploded, had a beneficial effect in their day. They have had a good effect, both subjectively on physicians and objectively on the patients. Certain alcoholic cures were, he said, undoubtedly, humbugs. Whether these effects were due to hypnotic influences, the effect of a powerful mind over another, or to the giving up to nature and allowing her to do her own repairing, the Doctor could not say, but the facts showed there was need of less use of drugs and more attention to the nature of diseases. The physician was advised to go to the quack for example upon this point.

The Annual Address by DR. GEORGE F. KEENE was upon "Some of the Phases of Alcoholism." In introduction he said that the Legislature that passed a bill to suppress quackery had at the same time had under consideration an appropriation to promote quackery in the liquor cure bill. To alcoholism, side by side with syphilis, were ascribed the greatest pathologic effects. Alcohol was designated as not a real, but a supplementary food. Its effect was greatest upon the brain. It is the genius of degeneration. Effects were specified upon the various parts of the nerve and arterial systems, and symptoms of alcoholism were described at length. The hearers were warned against the worship of the "golden" calf of Keeley.

At the conclusion DR. NOYES introduced the new President of the Society, DR. E. P. CLARKE, of Hope Valley, as one ripe in years, rich in experience and loyal to the Rhode Island Society. In assuming his new office Dr. Clarke briefly replied.

A vote of thanks was extended to Dr. Noyes for the able manner in which he had performed the duties of President for the past two years.

The anuual dinner was held in the Trocadero following adjournment. The unusually large number of 140 was present, including one lady member of the society. Dr. George L. Collins acted as anniversary Chairman. The speakers were Dr. E. P. Clarke, of Hope Valley, who Thursday began his Presidency of the Society; Gov. Charles Warren Lippitt, Samuel R. Dorrance and Prof. H. C. Bumpus, of Brown University.

DR. CLARKE spoke of the profession of the country doctor, to which class he considered himself to belong. He said they were the hardest worked and poorest paid in the profession. A great physician was allowed to profess ignorance of a particular case, but the country doctor must know everything. Therein many of necessity fail. In spite of his place in this class, he expressed the hope that the society would not lose ground during his term of office and asked for their sympathy and support.

GOVERNOR LIPPITT praised the society for its financial management of the Fiske fund, whereby it had increased 600 per cent., congratulated it for securing the passage of the bill to regulate the practice of medicine, and paid a tribute to the physicians who accompanied the soldiers to the battle field. The State should be proud of the medical profession of Rhode Island.

SAMUEL R. DORRANCE was asked to speak for the Rhode Island Hospital. He is a former President and Secretary of the corporation, and at present a member of the Board of Trustees. He said that the origin of the hospital was among the men of this society. In the face of poor success at first, they stuck to the project. Even after its establishment the people looked upon it as a place where doctors tried experiments. But there are now many evidences that the community realizes the value of the institution. The present condition is due to the men of this society in giving their time, best thoughts and fruits of experience without price to the work.

PROFESSOR BUMPUS of Brown University, outlined the work that is being done for medical students at Brown, the increased appropriations making possible greater laboratory facilities, better apparatus, and more books. Applications for the courses are increasing. He thanked the members for their help to the college.

During the afternoon the Fellows and guests visited the St. Joseph's Hospital, and were there tendered a reception.

NECROLOGY.

ARTHUR E. DURHAM, F. R. C. S., Eng., Consulting Surgeon to Guy's Hospital, died May 7, aged 61 years, after a short illness, from acute pneumonia. He was a native of Northampton, and entered Guy's Hospital in 1855. After distinguishing himself in the examinations at the University of London he took his Fellowship at the Royal College of Surgeons, England, in 1860. Two years later he was elected to the post of assistant surgeon at Guy's, and from 1873 to 1894 he was one of the full surgeons at the hospital. On his retirement in 1894 he was appointed one of the consulting surgeons of the institution. In the medical school attached to the hospital he lectured for many years on anatomy and surgery. He took a prominent part in all the movements which had for their object the welfare of the students. He was President until last year of the Students' Club, and of the Guy's Hospital Cricket Club. Mr. Durham's contributions to the literature of his profession were almost entirely limited to papers read before the societies, and articles to "Guy's Hospital Reports," Holmes' "System of Surgery," and Quain's "Dictionary of Medicine." In the former were published his valuable observations on "Sleeping and Dreaming," and the "Physiology of Sleep," in which were recorded his memorable experiments to show the state of the circulation in the brain during waking and sleeping. Mr. Durham was one of the first surgeons in this country to take up the specialty of diseases of the throat and nose, and he was the designer of the lobster-tail tracheotomy tube which bears his name. As an operator he was bold, neat and skillful. Nature had endowed him with hands which must have been the envy of most surgeons who knew him; the fingers were long and tapering, as flexible as those of an accomplished musician, and full of grace of movement. At the time of his death Mr. Durham was a member of the Council of the Royal College of Surgeons, England, upon which body he had served eleven years. In former years he served as vice-president. Mr. Durham was exceptionally well and favorably known to American surgeons.—*London Medical Press*, May 15, 1895.

SAMUEL PATERSON VON DER SMITH, M.D., of Bloomfield, N. J., died Friday, the 31st ultimo, of tubercular enteritis. He was born in Lancaster, Pa., in March, 1821, and was graduated in medicine from the now extinct school, the Philadelphia College of Medicine and Surgery, in the class of 1849. For several years he practiced medicine in New York. He was examining surgeon of the New York Police Department for some time, and later was an examining physician of the Mutual Life Insurance Company. At the opening of the war he was a surgeon in the 6th New York Cavalry, and afterward he was with the 16th New York Cavalry. He served through the Rebellion. Dr. Von der Smith was in Washington when President Lincoln was assassinated by John Wilkes Booth. He went with the party that chased the assassin across the Potomac into Virginia, and was present when Booth was shot. He never tired of describing the scene. He received a medal and a diploma for the part he took in running Booth down. After the war Dr. Von der Smith went to Arizona, and was attached to one of the regiments on the frontier as regimental surgeon. He was acquainted personally with Generals Grant, Sherman and Sheridan, and he was a member of Cameron Post, No. 79, G. A. R., of New York City. He had lived in Bloomfield ten years.

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SATURDAY, JUNE 15, 1895.

MORTALITY AND CAUSES OF DEATH IN MEDICAL MEN.

DR. KORTRIGHT has recently presented this subject in the Brooklyn *Medical Journal*, bringing out some very impressive and suggestive facts. He made a study of the mortuary records of four hundred and fifty physicians who lived and died in New York and Brooklyn, and the vicinity, during the past eight years. As the surroundings and climate were alike generally, the facts are of unusual interest. The average age of death was 54.6 years, and the mortality was 25.53. This mortality is only exceeded by saloon keepers, butchers, quarrymen, and poor factory operatives. Clergymen have a mortality of only 15.93, and lawyers 20.23, so that the practice of medicine is far more hazardous and perilous as an occupation.

Among the causes of death, suicide is four times more common among physicians than other adult males. This includes many cases of accidental poisoning, such as an overdose of some drug used by the victim, either addicted to the drug, or using it for some special purpose. Others died from bullet wounds of the head, the motive of which was not clear. Consumption was a very small factor as a cause of death, reaching only 10 per cent., while the ordinary death rates among adult males in New York are 19 per cent of the whole number. Physicians have less than half the usual mortality from this cause.

Deaths from the latest fad, appendicitis, were one thirty-seventh of the whole, showing that physicians are not suffering from this trouble in the same ratio as other people. Typhoid fever appears to be exceptionally high as a cause of death; 4⅛ per cent. died from this cause. The usual rate among adult males is 1¼ per cent. Pneumonia furnishes a high death rate, 13 per cent; in the adult male population the mortality is 14 per cent. Bright's disease, apoplexy and various forms of heart disease are grouped together as all having common pathologic conditions, viz., arterial sclerosis and degeneration of the muscular fibers. The mortality from these causes was 35 per cent., whereas the usual death rate from these causes among all male adults is only 25 per cent.

The conclusion is clear that these are the most common diseases that prove fatal among medical men. Arterial sclerosis was the cause of over a third of all the mortality. This is confirmed by English statistics. This means, briefly, that irregularities of the heart's action, from neglect of diet, sleep, nutrition, overeating, undereating, overwork and under exercise has left its impression in the thickening of the walls of the heart and arteries. The constant variation of the tension of the arteries has resulted in fibrinous deposits and inflammatory changes involving the kidneys, as well as the heart and arteries. Probably, defects of elimination are among the most common early causes of irritation and changes. This is followed by poisoning and starvation and increased functional activity of the heart in the effort for elimination. Then follows changes in the specific gravity of the blood from the retained products of metabolism and pathologic conditions which are expressed in the term arteriosclerosis.

It is the irregularities of living which make the physician neglect many hygienic rules that he forcibly impresses on his patients. He is often eloquent in his arguments and reasons for rest and change, and regular hours of sleep, to those who consult him. But, alas, he does not put into practice in his own case what he so urgently impresses upon others.

Physicians keep on, long after warning voices are heard of approaching dangers. Voices of palpitation, of arterial tension, of tortuous arteries and increased flow of limpid urine, and other unmistakable signs; voices of insomnia, indigestion, morbid anxiety, slow restoration when exhausted, loss of ambition and interest in things of the present. These voices tell of the approach of the end. There is only one way open for the future and that is to give up night work, and confinements, take a long summer rest, eat abstemiously, stop all drinks except water and tea or coffee, take exercise in the open air, and give careful attention to the function of the skin, avoid chills and worry and mental care and strain, and live carefully and quietly. Take this course, and we may expect to live many years and be of great service to those about us. Here is an open field for new studies—how to prolong and raise the life work of physicians.

ALCOHOLIC COMA, ON THE STREET.

This JOURNAL in its editorial columns has frequently called attention to this subject, and DR. L. D. MASON, of Brooklyn, N.Y., recently read a paper before the Kings County Medical Society, calling attention to the frequent blunders made by policemen and ambulance surgeons in placing all cases found stupid on the street with an alleged alcoholic breath, in cells of station houses. DR. JOHN MORRIS, of Baltimore, Md., discussed this subject in the State Medical Society of Maryland seventeen years ago in a very clear paper. Curiously, this failed to attract much attention in this country, but was translated and reprinted in many of the leading journals of Europe.

The French Academy of Medicine took up the subject, and as the result of a very wide discussion, special laws were made, requiring all cases found stupid on the street to be taken to a receiving hospital where they could be examined and observed. In London, the police were directed to take such cases to special emergency hospitals. In many of the cities of the continent, similar rules have been enacted. In New York and all the large cities and towns of this country, the diagnoses of such cases are made by the police and ambulance surgeons, or any one who may be passing. The result is that a considerable number of these cases are found dead in the cells next morning. Where an autopsy is made, hemorrhage, tumor of the brain, fracture of the cranium with concussion, Bright's disease, sunstroke, embolism, and other physical lesions are discovered. If an inquiry is made into the history of the case, epilepsy, narcotic poisoning and heat or sunstroke appears. For various reasons, spirits were taken shortly before the coma came on, and the breath determined the diagnosis. These cases are treated roughly in the ambulance or patrol wagon, and with the slightest appearance of opposition are struck on the head, or shaken violently, to intimidate and keep them down. Thrust into a cell to sleep off the supposed stupor of alcohol, the patient dies from neglect, and next morning the police surgeon certifies to death from alcoholism. The case is recognized as a man of prominence and temperate, and an autopsy reveals the real condition. There is no redress, and this is repeated in almost every city in the Union. One week in August, last summer, five cases occurred in New York City. These persons died in cells of the station houses, from hemorrhage, embolism and Bright's disease.

DR. MASON'S paper was an earnest protest against this practice, and he gave numerous facts and cases showing the great wrongs committed by having the diagnosis of such cases made by persons unfit and incompetent to judge.

The Kings County Medical Society appointed a committee and passed resolutions, calling on the Health Board to make special provisions against this evil. As a result the Health Commissioner of the city of Brooklyn has ordered that all cases of coma found on the street must be sent to the hospital. The wisdom of this was clear the next week after this rule went into effect, in the diagnosis of acute alcoholism made by an ambulance surgeon, of a case which proved to be one of fractured skull.

DR. MASON read before the Neurological Section of the ASSOCIATION at the Baltimore meeting, another paper on the same subject, which was followed by a resolution urging physicians to petition authorities in all cities to have these cases of coma cared for rationally. This paper and resolution will appear later in the JOURNAL. Thus the good work of DR. MORRIS in 1878 which bore fruit in Europe, is now taken up by DR. MASON, and will inaugurate a genuine reform all over this country in the near future.

The criminal recklessness of the present practice was recently illustrated in Philadelphia, where the police brought into the station a stupid, half-delirious man as drunk. The next day he was found dead, and proved to be a clergyman, under treatment for Bright's disease, who went out for a walk, and probably took spirits for weakness, and was arrested and hit over the head by the officer. In a list of cases of this character is one of a prominent physician who was found dead in a station house cell. His skull was fractured and the police record was "drunk and stupid." He was a thoroughly temperate man, had not been robbed, and was seen in his usual health an hour before the arrest by the police. The inference was that for some sudden illness he had taken spirits, and his skull had been fractured by blows of the officer at the time of the arrest. Our readers will recall many similar cases and recognize a radical reform in the present practice.

RHODE ISLAND MEDICAL SOCIETY.

The eighty-fourth annual meeting of this society occurred at Providence, June 6, a detailed notice of which appears in this JOURNAL. This society differs from other State societies in many respects, and has done some excellent work in scientific medicine. Practically, all parts of the State are within an hour's ride of Providence, so that all physicians can attend the meetings which are held four times a year. These meetings open at 10 A. M., and after the informal relation of cases, an essay and address follows, then a dinner and adjournment.

The intellectual exercises are confined to two hours, and the dinner another hour or more; the whole not exceeding four hours, and the physician is home again in time for evening practice.

The State is densely populated with a succession of manufacturing villages and cities, and physicians have to do all-round practice of every sort. The

surgery from the mills, and the fevers and epidemics of these villages, with faulty water supply and bad sewers, and a most changeable climate, along the bays and numerous rivers of the State, bring a variety of medical work that requires great versatility not common in other States, for "State" medicine or "sanitary medicine" is as much a medical specialty as ophthalmology or laryngology.

Recently an act regulating the practice of medicine has been passed, requiring an examination of all physicians without a diploma from schools which did not require four years' instruction, and a certain preliminary training after July, 1895. In all cases of persons now practicing, a diploma, and evidence of respectable honorary practice from 1892 is required. This act is regarded with great favor as the beginning of better legislation in the future. Many parts of the State have large seaside summer villages of immense populations in the warm weather, and irregulars of all descriptions gather here. This practice act will do much to drive out this class who live on the credulity of their patrons.

Although in close proximity to Boston and New York, the Rhode Island physicians have retained the original Quaker independence of thought and action that has always marked the people of this State. Grave questions in surgery and general practice are largely settled at home by local experts, and the distant consultant is rarely seen. New medical works always have a large sale in this State, and the State Society has accumulated a very large library which is open to members.

Three years ago a medical monthly was started in Providence, which has now become a weekly. It is edited by a large number of local and foreign physicians, and has the promise of being a very noted journal in the future. A most commendable feature of the Rhode Island Medical Society meetings, is to have only one or two papers, and give the author ample opportunity to present the subject fully and clearly. In the meeting mentioned, Dr. Rogers' essay on "Humbug as a Therapeutic Agent," discussed the credulity and superstition which has been associated with medicine for ages. He mentioned some of the great medical superstitions of the past, now exploded, which had a beneficial effect, both subjectively and objectively on the physician and his patients. He cited the alcoholic cures of the day as examples of quackery doomed to an early death.

The annual address by Dr. Keene treated of the "Drink Problem," and the need of a medical study of cases which now come under the care of quacks. He called attention to the boldness of the "gold" curers, who had come before the Legislature claiming recognition, particularly asking the State to assist in promoting quackery of the worst form. Both the essay and address were admirable discussions of topics that every physician should be familiar with, and be able to teach authoritatively to his patrons.

It is undoubtedly true that physicians do not give sufficient attention to mental therapeutics and the essentials, to inspire the confidence and trust of their patients, and thus neutralize some of the credulity which supports mind cures, gold cures, drug cures, faith cures and other 'isms. The coming physician will make use of many of the means now despised, and accomplish results now deemed impossible.

THE MICHIGAN STATE MEDICAL SOCIETY.

The thirtieth annual meeting of the Michigan State Medical Society was held in Bay City, Mich., June 6 and 7, under the presidency of Dr. H. O. Walker. The attendance was representative in character and equal to the average in numbers. The local committee had made abundant provision for the convenience of the members, and with tireless endeavor promoted cordial goodwill, so that the meeting was without friction in any respect.

It was gratifying to have the committee report the enactment of a law by the Michigan State Legislature to prevent blindness, by compelling attention to the purulent ophthalmias of the newborn, but sadly disappointing to learn from other committees that the bill to regulate the practice of medicine failed to become a law—after the manner of many previous attempts, and that the bill to secure a registration of births and deaths in accordance with common sense, had also failed to become a law. Michigan, still, by deliberate act of its Legislature, remains the dumping ground for the world's incompetent and dishonest doctors.

The society made a notable change in its requirements for membership, in that it admitted two physicians whose entire medical education was obtained in "homeopathic" medical colleges. It was stated by a member upon the floor of the house that such action was contrary to the Code of Ethics, so that the action was taken deliberately and with full knowledge of the facts; a fact the more noteworthy because last year this society refused to entertain the idea of changing the Code of Ethics in any particular.

The scientific work of the society is done in three sections. These were all well attended, the papers of scientific and practical interest, and intelligently discussed. As the papers numbered fifty it will be apparent that the sessions of two days and one night were needful in order that the work be accomplished. The arrangement of the first session of each of the sections was peculiar, in that it was devoted to the consideration of a series of papers discussing different phases of a single topic; thus the surgical section discussed urethral surgery; the medical section diphtheria, with the antitoxins; gynecology, malig-

nant diseases of the uterus. The papers prepared for these several discussions were of unusual merit. The remaining sessions of the sections were devoted to papers on widely diverse subjects, usually embodying original studies or original research, and of such general attraction as to hold the members in attendance till the time for final adjournment. Since the organization of these sections this society has been singularly free from wire pulling and disagreeable episodes. There are several reasons for this delightful change from former days: 1, there is nearly four times the amount of work called for, which engages at least four times as many physicians. This employs the surplus energy so that less is left for less useful purposes; 2, there are four times as many officers, so that the desire for office-holding is more largely appeased, and hence the diminished struggle for such positions; 3, an atmosphere of scientific study and work is created, of far greater intensity, and this represses much that is undesirable which was associated with the old style medical convention; 4, engaged in actual work constantly to a number threefold more than formerly, the members have found a pleasure and satisfaction hitherto unknown; 5, each member had a chance to select one of three papers or discussions at any time during the meetings—so that he had an opportunity to select topics hitherto unavailable; 6, the papers have become more scientific, and are prepared with greater care, because the selected audience has a chance to criticise more intelligently, and by its very selectness is better able to criticise.

It must be admitted that this new state of things is unsatisfactory to the friends of the old time medical convention. These prefer a chance to talk to a large crowd; to have a less discriminating audience; to shut off others from a chance to learn the art of public speaking in medical societies—they do not enjoy the highest grade of scientific work. However, it is hoped by the majority of thoughtful workers in the Michigan medical profession that the present system may be continued and perfected.

Mt. Clemens was selected as the next place of meeting, and the first Thursday in June, 1896, as the date for holding the same.

THE INDEX MEDICUS.

The following notice from MR. GEORGE S. DAVIS will be received by the entire profession with great regret. No one, however, can criticise MR. DAVIS for declining any longer to make good the large discrepancy between the expenditures and the receipts.

In our opinion the ASSOCIATION can afford to print this work as soon as the subscription list of the JOURNAL shall reach 12,000. With a subscription list of that number, including members of the ASSOCIATION, the increase of advertising would pay for the loss in the issue of the *Index Medicus*. It seems entirely clear that no private publisher will be willing to stand the loss, and as the work is universally conceded to be of the greatest utility to medical writers and teachers, it would seem eminently fitting that our great ASSOCIATION should carry it on. But with the depleted revenue that we must probably face this year, on account of the necessary elimination of certain advertisements, such increased expenditure would be impossible unless every member puts forth his efforts to bring up the subscription. We have not found canvassers of much benefit. Most doctors are too busy to talk to them, and it naturally results that the only real growth of the power and influence of the ASSOCIATION will be made when the members, each for himself, resolves that the old ASSOCIATION shall be the greatest on the globe, and secures a new member or subscriber for the JOURNAL.

The new volume begins July 1. Let every member obtain one new member or subscriber to start the new volume on a better and higher plane than ever. With the consent of the editors of the *Index*, and the vote of the ASSOCIATION at its next meeting, not only may the *Index Medicus* be preserved, but the ASSOCIATION itself, ever foremost in work for the advancement of our profession, may still further promote its noble aims and purposes.

THE PASSING OF THE INDEX MEDICUS.

"DETROIT, MICH., June 7, 1895.

Dear Doctor:—I notify you, as a subscriber, that the *Index Medicus* terminated its existence under my supervision, with the April number. I have published this journal since January, 1885, at an annual loss of from $500 to $1000, in view of my interest in a purely scientific publication, in which I had no mercenary interest whatever. This is a larger sum than has been contributed by any professional man, or body of professional men to this purpose.

Owing to the hard times of 1893 the subscription list of this journal was greatly shrunken, and difficulty was found in making collections from subscribers. The deficit in 1893 was a very material sum, which was largely increased in 1894. Announcement was then made to the medical profession that unless the subscription list of the journal could be placed upon a paying basis I must discontinue its publication. Many friends of the *Index Medicus* appealed to me to defer action until they could by individual and organized effort arrange for an increased number of subscriptions, or for a fund whereby its continuance might be assured. After a period of six months it is found that the prospective deficit this year, assuming that all subscriptions are collectible, will be nearly $2,000. Inasmuch as I can not afford to carry such a burden I have decided as above announced. Very sincerely yours,

(Signed) GEO. S. DAVIS."

PAN-AMERICAN MEDICAL CONGRESS.

PRESIDENT DIAZ in his annual message to the Mexican Congress, April 1, 1895, says:

"The Executive, being determined to omit no effort or spare no expense which might redound to the honor of the Nation and to the advantage of studious youth, has created an Anatomia-pathologic Museum, with the double purpose of furnishing a new and efficient element of instruction to the school of medicine, and also for the purpose of appreciating worthily the scientific labors that are to be presented to the second Pan-American Medical Congress when it meets in this Capital in 1897."

CORRESPONDENCE.

"Audi Alteram Partem."

SAN FRANCISCO, CAL., May 22, 1895.

To the Editor:—[Our esteemed correspondent, whose letter pronouncing the collective investigation of the antitoxin treatment of diphtheria impossible of execution was published in the JOURNAL of May 11, takes exception to the summary fashion in which his first communication was treated, and furnishes the following argument in support of his belief that the results of such investigation must be valueless.]

I feel perfectly safe in saying that, in the present light of science, no living person can make a positive differential diagnosis between typical Bretannean diphtheria and allied affections—and for the following reasons:

1. A schizomycete answering (Löffler's) description has been found in less than 50 per cent. of cases of clinical diphtheria—and then never alone, always together with other forms, such as streptococci, staphylococci, pneumococci, bact. coli communis and micrococcus prodigiosus (See Hausemann, Benda, Ritter, Körte and others. Proceedings Berlin Medical Society, Nov. 28, Dec. 7, 12, 1894; also report of New York Board of Health on the bacteriologic investigation of 6,511 cases of clinical diphtheria between May 4, 1893, and May 4, 1894).

2. This virulent bacillus has been found in the mouth and throat of perfectly healthy children, and nurses in diphtheria wards. Also in connection with cases of rhinitis fibrinosa running the same clinical course as other cases in which it was absent (Benda, Liebreich, Hausemann, Ritter, Unger and others. Proceedings Berlin Medical Society, Nov. 28, Dec. 7, 12, 1894).

3. The disease produced in the lower animals by injections of so-called pure cultures of Löffler's bacillus diphthericus, differs radically from typical Bretannean diphtheria in human beings (Hausemann, Ritter, Benda, Scheineman, Unger, Scholz and others. Proceedings Berlin Medical Society, 28, Dec. 7, 12, 1894).

4. Ritter found bacilli absent in a case of typical Bretannean diphtheria.

5. Polymorphism of schizomycetes, such as the bact. coli communis and others common to the alimentary canal of human beings and the lower animals—and constantly found within the internal organs of diseased organic forms before and immediately after death—render a scientific bacteriologic diagnosis impossible. (See reports on the following poison epidemics: 1, at Frankenhausen, investigated by Professor Gartner; 2, at Rörsdorf, investigated by Gaffky and Paak; 3, at Moorsule, investigated by Van Ermengen; 4, at Cotta, investigated by Nulsen, Zohne and Gartner; 5, at Ganstad Insane Asylum, investigated by Peter F. Holst. Also Wurtz and Hermann, Macaigne, Welch of Baltimore, Lubarsale, Tavel, Roux, Escherick, Fraenkel, Dunbar, Rodet, Stocklin, Cohn, Lankester, Billroth and others. Duclaux writes in *l'Annales de l'Institute*, Pasteur, 1891, page 850): "*Chagne annèe de travail fond ensemble des espices, qu'on croyait distinctes et en sipare d'autres, qu'on croyait identique.*"

(Each year's labor removes us farther from the hope of distinguishing and separating from one another "forms" thought to have been identified.)

Serum-therapy is entirely "empirical," inasmuch as leading investigators in this field differ widely in regard to the *modus operandi* of "immunity," said to occur in connection with organic forms having passed through so-called "infectious diseases" and it can not be said that any of these theories, which may be enumerated as follows, has stood the test of severe adverse criticism: 1, Pasteur's exhaustion theory; 2, Chavau's retention theory; 3, Metschnikoff's phagocytosis theory; 4, Buchner and Hankins alexin theory; 5, Koch-Behring antitoxin or chemic theory. All of these theories are stubbornly adhered to by their respective originators.

Antitoxin serum-therapy is essentially the outcome of the violent opposition offered by Koch and his disciples to Metschnikoff's phagocytosis teachings—chemic or humeropathologic processes versus Virchow's intra-cellular processes—and while many things point toward the latter, still there exist no scientific data corroborative of any theory, and any therapeutic method based thereon is unscientific—empirical as it were. For an exhaustive treatise on the various theories, experiments and data leading up to the introduction of antitoxin blood serum into human therapeutics, see my paper, "The Status Presens of Antitoxin Blood Serum," read before the State Medical Society of California April 16, 1895.

For reasons too obvious to mention, antitoxin diphtheria serum has been more thoroughly tested in Berlin where it originated than elsewhere, and inasmuch as leading unbiased Berlin physicians have tested its merits during the past five years, and expressed their views thereon professionally, we are in a position to judge correctly of the matter.

In the Berlin Medical Society, Nov. 28 and Dec. 7 and 12, 1894, Hausemann, Ritter, Benda, Unger, Scholz, Liebreich, Oppenheim, Hahn, Meyer, Gottstein and others went on record as saying that, "antitoxin diphtheria serum did neither render immune nor cure diphtheria as claimed by Behring, but that it complicated said disease by giving rise to serious inflammations of important functionating organs such as: the liver, spleen, heart, kidneys, nervous system and skin—the direct result of chemic decomposition of the blood."

Nor does the following mortality statistics, appertaining to Berlin, compiled by Gottstein from the official death register of the city, show the serum-therapy up in a very favorable light when studied attentively and without bias:

From September 30 to November 24.

Years	1890	1891	1892	1893	1894
Deaths in entire Berlin	276	216	269	334	209
Death in hospitals	131	124	178	197	131
Admitted to hospitals	328	320	453	454	712
Per cent.	39.9	38.7	39.3	43.3	18.4

For the entire year.

Year	1890	1891	1192	1893	1894
Deaths in entire Berlin	1,591	1,106	1,442	1,627	1,281
Deaths in hospitals	682	613	837	956	787

For reasons too obvious to mention, hospital mortality is much less than that of private practice—hence we can readily understand why the mortality from Sept. 30 to Nov. 24, 1894, appears to be reduced to half of that of a corresponding period in 1891, because for some reason, probable panic attendant upon serum notoriety, 712 patients were admitted to the hospitals in 1894 against 320 in 1891. To what extent these 712 hospital cases have been manipulated by the friends of the serum can best be seen by referring to the last columns of these statistics which show: that the mortality from diphtheria for entire Berlin during 1894 up to November 24 far exceeds that of the entire year of

1891—in spite of the fact that over 1,000 children were treated by the serum method in the hospitals, beside numerous cases in private practice. Adding the number of deaths that occurred between November 24 and January 1, the mortality of Berlin from diphtheria in 1894 exceeded that of the year 1891 by about 600, or over 25 per cent.

Rumpf, of Hamburg, states that better results are obtained in the hospitals there by other methods.

Virchow and Baginsky have expressed themselves in favor of the serum-therapy, but inasmuch as the opinion of the former is based upon certain results said to have been obtained by his assistants during a few weeks in the summer of 1894, while he was absent on his vacation—and inasmuch as the latter entirely ignores and defies mortality statistics—their opinions upon this subject can be of little or no value. (See Proc. Berlin Medical Society, Nov. 28, Dec. 7, 12, 1894.)

I will exclude all data coming from Behring, Aronson and others personally interested in the manufacture and sale of antitoxin serum. As a rule, medical men in Europe are very conservative regarding this new therapy—as they have not yet recovered from the humiliating effects of the "tuberculin swindle," which originated in the same quarters.

So far, nothing has appeared in the American medical press which would indicate that medical men in this country are familiar with the cardinal principles underlying this subject—and I would advise them to "look before they leap," as perhaps neither "they" nor the "American public" are ready to accept these principles when fully understood.

These principles were exposed by Binz in 1883 at the Buda-Pesth Congress for Internal Medicine, when he said: "Our future therapeutic efforts in infectious diseases must be toward '*Den lebenden organisms zu entgiften.*'" (To poison the organism, as it were.)

I take issue with Binz and his followers on this doctrine, and I believe that the majority of the American medical profession will continue in the future as they have done in the past—to eliminate the contagium at the bedside. "*Den lebenden organisms nicht zu entgiften-wollen.*" Respectfully,

CHAS. G. KUHLMAN, M.D.

Answer to Dr. Rogers.

NEW YORK, June 10, 1895.

To the Editor:—Dr. Rogers' attack upon Koch's demonstration of the causation of cholera, in the JOURNAL of June 8, is rather amusing to the medical man of to-day. While believing that he will receive answers more able than mine, I take the liberty of calling his attention to a few errors in his statement.

In the first place, Koch did not "fancy" that the comma bacillus was the cause of cholera; it had to be present in every case of cholera, it had to be capable of cultivation in artificial media in pure culture, and it had to produce the disease whenever inoculated, before he was willing to identify it as the cause. Unfortunately, the inoculation experiments do not depend alone upon results obtained in the lower animals, for several bacteriologists have themselves been infected while working with this organism.

In the second place, while comma-shaped organisms are universal, as the Doctor states, the comma bacillus of Koch is neither universal nor harmless. If the shape of microorganisms alone were sufficient to differentiate them, what a simple easy study would be the science of bacteriology! Dr. Koch has never asserted, to my knowledge, that the cholera bacillus is frequently present in water from all sources, although any up-to-date physician knows that curved bacilli are frequently present. All cholera germs are curved bacilli, but all curved bacilli are not cholera germs.

The experiments of Drs. Pettenkofer and Emmerich, as alluded to in the letter, prove nothing, for the following (and other) reasons:

1. Koch and many other observers have shown that acids readily kill this organism; we can easily understand, therefore, how the healthy acid gastric juice of the two physicians protected them from infection. Drinking cholera broth does not necessarily imply infection; it only makes infection possible. The liquid stools mentioned can be produced by toxins isolated from old cultures, without any bacilli being present.

2. Organisms grown on artificial media for many generations are very apt to lose their virulence, even though they may have been very virulent in the first few cultures.

In conclusion, I would hardly advise Dr. Rogers to repeat the experiments of Pettenkofer and Emmerich, as such a communication as he has given us, in defiance of modern scientific research, might indicate that his gastric juice had alkalin tendencies! Yours respectfully,

WALTER G. HUDSON, M.D.

A Card from Secretary Atkinson.

PHILADELPHIA, June 4, 1895.

To the Editor:—Your explanation of the inability to send the JOURNAL to the new members does me great injustice. As I wrote you, not any of the credentials nor papers of the Registration Committee have yet reached me. All were sent directly to Dr. Newman, our Treasurer. Had I had the list or my own private index, made especially to prevent this, I would have had my share done at once. For this reason, I ask you to do me the justice to announce in the JOURNAL the fact that all the papers were sent at once to Chicago. I am getting letters on this subject constantly, and it is important that I should be set right before the profession. Please do me this favor at once.

Yours very truly,

WM. B. ATKINSON.

Literature on the Dual Brain.

ST. LOUIS, June 4, 1895.

To the Editor:—I have read with interest your editorial on the "Dual Brain," in a recent number of the JOURNAL. Please inform me how I can procure Dr. Bruce's article on this subject, also the writings of Holland and Wigand, and Brown-Séquard. FAYETTE C. EWING, M.D.

ANSWER:—Dr. Wigand, "Duality of Mind," *Lancet*, 1844; Sir Henry Holland, "Chapters on Physiology of Mind," 1852; Brown-Séquard, Toner Lecture, 1877; L. C. Bruce's article in *Brain*, Spring No., 1895.

Exact Address of Association Treasurer.

CORONADO, CAL., June 1, 1895.

To the Editor:—Will you please insert in our JOURNAL the exact place of residence of the Treasurer of the ASSOCIATION, that members may know just where to send dues.

F. W. TOLD, M.D.

ANSWER:—Henry P. Newman, M.D., 36 Washington Street, Chicago, Ill.

SOCIETY NEWS.

American Academy of Railway Surgeons, Meeting of the Publication Committee.—Pursuant to the call of the President, Dr. C. K. Cole, Helena, Mont., Drs. C. B. Kibler, Corry, Pa; W. J. Galbraith, Omaha, Neb.; R. Harvey Reed, Columbus, Ohio; C. M. Daniels, Buffalo, N. Y., and Webb J. Kelly, Galion, Ohio, met June 1, at Galion, Ohio, to arrange the preliminary work for the coming session of the American Academy of Railway Surgeons. After considerable discussion, the date of the meeting was set for September 25, 26, and 27. This was thought advisable on account of the previous date conflicting with those of other prominent associations; and

again, on account of the excessive heat at that season of the year. It was decided to request Chairman Bevan of the Arrangement Committee, to engage headquarters and hotel accommodations at one of the leading hotels in Chicago. The classification of the program was placed in the hands of Drs. Kelly and Reed, they to act in conjunction with Drs. Owens and Bevan. In the wisdom of the committee it was deemed advisable to have an eminent authority deliver an address upon Medico-Legal Surgery, and Dr. Daniels was chosen to select a man for this position. Arrangements will be made for the reading and discussion of eight papers before the Academy each day. Each paper will be limited to twenty minutes, and the opening discussion to ten minutes. Each subsequent speaker will be allowed five minutes in which to discuss any paper read. A vast amount of routine work was done by the committee and we have their assurance that the program will be "one of the best ever sent out from any surgical association in this country."

American Laryngological Association.—The seventeenth annual congress of this Association will be held in Rochester, N. Y., June 17, 18 and 19, 1895. The following papers will be read: Foreign Bodies in the Esophagus, by Harrison Allen; Desiccated Thyroids in Goitre, by E. Fletcher Ingals; The Influence of Chronic Diseases of the Throat upon certain Defects of Speech, by D. Bryson Delavan; Electrolysis by a Current Controller for the Reduction of Spurs of the Nasal Septum, by W. E. Casselberry; Is Acute Tonsillitis in any way dependent upon the Rheumatic Diathesis? by Geo. B. Hope; Some Remarks on Removal of the Tonsils—A Case of Lipoma of the Larynx, by J. W. Farlow; A Case of Melancholia Cured by Intranasal Operation—Case of Suppurative Ethmoid Disease, followed by Invasion of the Sphenoidal Sinus, Abscess of the Brain and Death, by F. H. Bosworth; Consideration of some of the more important Principles of Intranasal Surgery, by W. K. Simpson; Ludwig's Angina, J. E. Newcomb.

Discussion: Tuberculosis of the upper Air Passages. Etiology—Jonathan Wright; Diagnosis—C. C. Rice; Treatment—E. L. Shurly and J. W. Gleitsmann.

Cyst of the Maxillary Sinus, by Chas. H. Knight; A Case of Abscess of the Frontal, Ethmoidal and Maxillary Sinuses, by J. H. Bryan; *a*, Necrosis of the Middle Turbinate; *b*, Congenital Osseous Stenosis of the Naris, by A. B. Thrasher; *a*, A Naso-pharyngeal Cyst; *b*, An Oro-pharyngeal Cyst; *c*, Fibroma Papillare, or True Papilloma of Nasal Septum, by Jonathan Wright.

Discussion: The Relation of Vasomotor Disturbances to Diseases of the upper Air-tract, by F. H. Bosworth, W. H. Daly and J. N. Mackenzie.

Electro-Therapeutic Association.—The following circular has been sent to the manufacturers of electro-therapeutic apparatus by the committee of the American Electro-Therapeutic Association, which will meet in Toronto, Sept. 3, 1895:

TORONTO, May 1, 1895.

Dear Sir:—The Committee of our Association has been directed to write you, along with the other manufacturers of electrical apparatus, to engage your coöperation in securing the general adoption of:

I. Uniform connections and interchangeable electrodes: 1, universal rheophore tip; 2, universal aperture for same; 3, universal attachment for electrolysis needles, etc.

II. Standard gauge of screw throughout construction, should screws be required.

N. B.—The adoption of a "society screw" for microscopes has been of mutual advantage to the makers of these instruments and their customers. It has led to increased sale, while it has also facilitated repair. The same advantages would follow the adoption of the above recommendation.

The committee was also instructed to request manufacturers to submit to it the various forms of electrodes now on the market; to test the same, and to report at the meeting of the society to be held in Toronto during September, 1895. Will you also kindly send the usual circulars, describing the special advantages of your instruments, which may be forwarded to the following members of the Committee:

Gynecologic Electrodes, Dr. Lucy Hall Brown, 158 Montague Street, Brooklyn, N. Y.

Neurologic Electrodes, Dr. C. Eugene Riggs, the Endicott Arcade Building, St. Paul, Minn.

Surgical Electrodes and others not specified, with samples of rheophores, rheophore tips, sockets and other connections, Dr. Charles R. Dickson, 159 Bloor Street East, Toronto, Canada.

Trusting to hear from you at your earliest convenience,

I am, yours truly,

CHARLES R. DICKSON, Chairman.

PUBLIC HEALTH.

Goitre in the High Alps.—Leon Jacques is of opinion that endemic goitre is an infectious disease, the germ of which is not yet isolated, but which exists in the water, soil, air and fruits of the infected area. The inhabitants are predisposed by certain secondary influences—poor water, vitiated air, unhealthy dwellings, poor food and, above all else as a determining cause, the influence of extreme temperatures, that is, excessive cold and heat acting alternately. Removal of these causes will nearly exterminate the disease, and the author demands the establishment of cisterns in the infected villages, the construction of roads and better homes, and the suppression of marriages between goitrous subjects. In its incipiency goitre is best combated by iodin; at a more advanced stage it is amenable to surgical measures.[1]

Psittacosis or Infection Spread by Parrots.—In a recent brochure, Morange states that psittacosis constitutes a definite morbid entity, one in its nature and causes, and its cases always comparable to each other. It may occur epidemically (1892) or even as an endemic (1893, November, 1894). The bacteriology of psittacosis is obscure yet, but it is highly probable that it is a primitive infection by a special bacterium found by Professor Nocard in the marrow of a parrot's humerus. Secondary infection by the pneumococcus is common. A resumé of the clinical history shows profound infection of the economy, characterized by languor and intense prostration with terminal pneumonia. As to diagnosis, when confronted with a poorly-defined typhoid condition not exactly agreeing with the other known typhoid states, M. Morange says we should always ascertain if the patient has been exposed to or in contact with a sick parrot. Prophylaxis of the disease should include buccal antisepsis and solution of the patient and interdiction of the sale of parrots by street vendors who are generally vagrants and consequently irresponsible.[2]

Health Reports.—Received at the office of the Supervising Surgeon-General, M.-H. S.:

SMALLPOX—FOREIGN.

Bohemia: Prague, April 27 to May 18, 11 cases.
Belgium: Brussels, May 11 to 18, 1 death.
Havana: Cuba, May 24 to 30, 14 deaths.
Egypt: Cairo, April 30 to May 6, 2 deaths.
England: Liverpool, May 11 to 25, 1 case, 1 death; London, May 11 to 25, 11 cases; Manchester, May 11 to 25, 1 case; Southampton, May 18 to 25, 1 case.
France: Paris, May 11 to 18, 1 case.
Ireland: Dublin, May 11 to 25, 40 cases.
Holland: Rotterdam, May 18 to 25, 2 cases.
Russia: Moscow, May 4 to 11, 2 cases, 1 death; Odessa, May 11 to 18, 9 cases, 3 deaths; Warsaw, April 27 to May 4, 1 death; St. Petersburg, May 11 to 18, 4 cases, 3 deaths.
Scotland: Edinburgh, May 11 to 25, 1 case; Glasgow, May 11 to 18, 1 death.
Spain: Barcelona, month of March, 6 deaths; Madrid, May 12 to 19, 2 deaths.

SMALLPOX—UNITED STATES.

Kentucky: Louisville, May 1 to 31, 1 death.
Louisiana: New Orleans, May 11 to 25, 8 deaths.
Michigan: Olivet, May 29, 1 case.
Ohio: Cincinnati, June 1 to 7, 2 deaths; Cleveland, May 24 to June 1, 4 cases; Toledo, May 1 to 31, 2 deaths.
Pennsylvania: Philadelphia, May 24 to June 1, 6 cases, 1 death.
Missouri: St. Louis, May 24 to June 1, 10 cases.
Wisconsin: Milwaukee, May 1 to 31, 19 cases, 1 death—June 1 to 8, 1 case.

[1] These de Lyon, 1894.
[2] La Psittacose, Paris, 1895.

CHOLERA.

Japan: Hiogo, May 4 to 11, 2 cases, 1 death.
Russia: Volhynia, April 7 to 13, 57 cases, 18 deaths; Podolia, April 14 to 20, 5 cases, 4 deaths.
Arabia: Mecca, April 22 to May 6, 213 deaths.

YELLOW FEVER.

Cuba: Havana, May 23 to 30, 10 cases, 4 deaths.
Mexico: Vera Cruz, May 23 to 30, 4 deaths.

MISCELLANY.

For the Prevention of Blindness.—The Illinois Legislature has passed the bill for the prevention of blindness.

Serious Accident.—The friends of Dr. Chas. Denison of Denver, will regret to learn of a painful accident to that gentleman, by which his leg was broken.

Estimate too Low.—Our estimate of 300 new members was too low. There were 350 new members at the Baltimore meeting. Let the good work go on!

Addresses Wanted.—Will some one please give the exact address of Drs. T. M. Floyd and J. H. DeHart? These names were returned as those of new members, but we have not been able to ascertain their direct address.

Washington State Board of Medical Examiners.—The Governor of Washington has appointed the following physicians to fill the vacancies on the State Board of Medical Examiners of that State, viz.: Dr. C. A. Smith, of Seattle; Dr. Henry W. Dewey, of Tacoma; and Dr. E. P. Penfield, of Spokane.

To Cleanse Nickel Instruments.—The blue or gray oxidation which covers nickel instruments may be removed by washing them in alcohol with sulphuric acid, in the proportion of 1 part of the latter to 50 of the former. The pieces are plunged in the bath for a few seconds, then rinsed in clear water and pure alcohol and dried in sawdust.[1]

Personal Notes.—Dr. A. H. Doty, Health Officer of the Port of New York, has recently set sail for Tampa, *en route* for Havana for the purpose of studying on the ground the Cuban management of yellow fever, to be absent two weeks. It is reported that he has said that a more serious epidemic of the fever may logically be expected by reason of the large number of unacclimated Spanish solders lately brought over from the mother country.

Donations to Medical and Charitable Objects.—Under the will of Mrs. Clarissa L. Crane of New York City, the Society for the Relief of the Ruptured and Crippled will receive $1,000. An equal sum is donated to the Skin and Cancer Hospital, the Fordham Home for Incurables, the Institution for the Blind and the Children's Aid Society. About $50,000 more have been bequeathed to other charitable objects in New York, Connecticut and Massachusetts.

Value of Albuminuria as a Symptom.—Marion insists on the fact that in renal affections the noxious matters passed in the urine are not so important as those which are retained in the organism; and in support of his views cites five cases; three of these had no albumin in the urine, nevertheless, the kidneys were working very badly and the patients were in very grave condition. As to the others, one passed eighteen grains and the other forty-eight grains daily of albumin, yet they only presented a few slight symptoms of Bright's disease.[2]

The Seattle General Hospital, of Seattle, Washington, will be opened for the reception of patients on June 15. The building has been thoroughly repaired and a modern operating room put in. The Board of Governors have announced the appointment of the following staff, viz.: Diseases of Eye, Ear, Nose and Throat, Dr. A. B. Kibbe; Neurologist, Dr. C. W. Sharples; Gynecologists, Dr. L. R. Dawson and Dr. Belle H. Smith; Diseases of Children, Dr. G. B. McCullough; Surgeons, Dr. James B. Eagleson and Dr. Alfred Raymond; Physicians, Dr. C. A. Smith and Dr. George Newlands; "Homeopathists," Dr. F. A. Churchill and Dr. Sarah Kendal.

[1] Les Nouveaux Remedes, April 24, 1895.
[2] Arch. Gen. de Med. March, 1895.

How to Treat Loquacity.—DOCTOR (to fair patient): Put out your tongue (meanwhile he writes a prescription). There, that will do.

MISS CHATTERBOX: But, Doctor, you did not even look at my tongue.

DOCTOR: No, I only wanted you to keep quiet while I wrote the prescription.—*Geillustreed Stuiversblatt.*

On a Tour of Inspection.—President R. Beverly Cole has been on a tour of inspection since the Baltimore meeting. The State of California having granted an appropriation to maintain the Medical Department of the State University, a commission of which Professor Cole is the chairman was appointed to visit medical colleges, for the purpose of ascertaining the method of construction of the new laboratories, noting the best models and securing working plans. He is assisted by Professor Becker of the Pharmacy Department of the University, and Mr. Sutton the architect. The indisposition of the chairman prevented him from visiting as many of the newer college buildings as he had contemplated, but he regards his mission as highly satisfactory. He left Chicago for California June 10.

Appendicitis Following Curetting; Difficult Diagnosis.—Monod reports a case in which curetting of the uterus was performed on October 5. In the night of October 9 to 10, violent pain occurred in the iliac fossa; on the 11th the face was drawn, pulse full, 100, vomiting of mucus, hiccough, right side of abdomen tender, evening temperature 39.5 degrees C. On the 13th the condition was grave; meteorism, abdomen tender on pressure, especially about the colon; vaginal examination negative. Diagnosis: appendicitis with peritoneal reaction. On the 14th there was a bowel movement containing old grape skins. From this time the symptoms gradually subsided. The case is interesting from a diagnostic standpoint. One might at first suspect some untoward effects from the curetting; but the sudden invasion precluded the idea of septic peritonitis, the lapse of time excluded perforation of the uterus, the negative examination eliminated perimetritis or parametritis, there was no trace of strangulated hernia, and the mucus vomiting and the temperature excluded internal obstruction. The localization in the iliac fossa suggested appendicitis, but which variety? From the symptoms there is little reason to suspect perforation with acute peritonitis, though a perforation may exist with localized peritonitis and adhesion. Conclusion: appendicitis without general peritonitis. But was there a peri-cecal abscess? The meteorism and contraction of the abdominal wall precluded any exploration, nevertheless, surgical intervention would be premature before local signs of suppuration appear; it is indicated, if there is no remission within two to five days (Roux, Jalaguier). In this case there was remission on the fifth day. The author is in favor of "armed expectancy," while using large quantities of opium, ice, enforcing absolute rest and a severely restricted diet.[1]

Scopolamin as a Mydriatic.—Grossman has tried scopolamin for a year as a mydriatic. A 2 per cent. solution causes mypriasis in eight to ten minutes; the maximum effect is attained in fifteen to twenty minutes and the pupil regains its normal size in four to six days. A 1 to 200 solution of atropin takes twenty minutes to dilate the pupil, fifty to sixty minutes for the full effect and seven to ten days for the pupil to become normal. Paralysis of accommodation follows instil-

[1] Gaz. Med. Sci. de Bordeaux, March 17, 1895.

lations of atropin in fifty to sixty minutes, in scopolamin in thirty to thirty-five minutes, but with the latter it does not last so long. If the instillation of scopolamin is preceded three or four minutes by one of cocain, the mydriatic action is more pronounced; cocain and atropin combined are less energetic. A 1 per cent. solution of scopolamin used two or three times daily for months never causes any untoward effects; toxic effects are only produced when a 3 or 4 per cent. solution is used. Atropin, on the other hand, in a 1 per cent. solution employed for any length of time, and sometimes after only two or three instillations, produces very manifest phenomena of intoxication. The author recommends that scopolamin replace atropin in children and adults with cardiac affections, for a 1 per cent. solution causes no phenomena of intoxication, does not irritate the cerebral cortex or accelerate the heart's action. Grossman also prefers scopolamin to atropin and homatropin whenever mydriasis is to be produced for diagnostic purposes; the advantages of the former are its much greater rapidity of action, and the lesser increase of intra-ocular tension.[1]

Analgesic Action of Bicarbonate of Soda in Digestive Disorders.—Linossier claims that a diagnosis of hyper-acid dyspepsia, made by the fact that bicarbonate of soda relieves the distress after eating, is entirely erroneous. He asserts that this agent may afford relief in other conditions than hyper-acidity and gives the following as his opinions: 1, if a gastric crisis following a few hours after meals is relieved by large doses of bicarbonate of soda, it does not follow that the distress is due to hyper-acidity; 2, the analgesic action of this drug may be used in most cases of gastric crises occurring regularly some hours after meals, even when the train of symptoms or gastric analysis eliminates the possibility of excess of hydrochloric acid. The drug is best given just before the usual mealtime, in doses of 0.50 to 2 gr., and may be repeated if the sedative action is only short-lived. The same rules are to be followed as in the treatment of cases due to hyper-acidity, save that the dose is less, though there need be no hesitancy in increasing it if the calmative effect is not produced. It will be found advantageous in most cases to dissolve the salt in very warm water, the excitomotor action of the water accentuating the effects of the salt. The author insists on the fact that the cases amenable to the soda are those recurring periodically toward the end of digestion. The latest cases are, in general, the ones most easily cured. Those occurring immediately after meals or that are continuous are not relieved as a rule. Among the digestive disorders produced some time after meals may be mentioned the insomnia of dyspeptics. In many cases radical relief is obtained by the ingestion of 4 to 8 grams of the bicarbonate four to five hours after the last meal, as M. Glenard has already remarked. In some patients, unfortunately, the salt rapidly loses its effect, and though the doses are quickly increased, it is only efficacious for a few days. In others again, it can be used indefinitely with good results.[2]

Two Cases of Cancer Treated by Sero-therapy.—At a recent séance of the Paris Academy of Sciences, MM. Richet and Hericourt reported the treatment of two cases of cancer by serum. They used an osteo-sarcoma of the leg, which was pounded up and a little water added. The liquor was filtered through a cloth and injected into a donkey and two dogs. No reaction followed, and five, seven and fifteen days later the animals were bled in order to collect the serum. The first case in Professor Terrier's ward was a woman who was operated on in October, 1895, for a tumor the size of an orange, dating back eight months and involving the sixth, seventh, and eighth ribs—skin not involved. In February, 1895, the tumor had re-appeared and attained the size of a small nut; a month later it was the size of a small orange. Treatment by sero-therapy was begun March 12, injections of 3 cc. each of the serum being made in the cellular tissue around the tumor for forty days—the total amount injected being 120 cc. From March 25, the tumor manifestly diminished and this became more evident until at present there is to be found only an induration the limits of which are difficult to define, and the volume is not one-third that of the primitive tumor. Moreover the general condition of the patient is much improved and she has gained much flesh. The second case, in the service of Professor Réclus, is that of a man 44 years of age, who entered the service on March 27, presenting a tumor in the inferior epigastric region the size of a large orange and which was diagnosed as cancer of the stomach. Surgical interference being deemed out of the question sero-therapy was begun April 6 by a preliminary injection of 4 cc. of serum and up to April 24 a total of 64 cc. had been injected. Improvement in the general condition rapidly followed. The patient's weight, 57 kilos on April 10 had increased to 58 on the 16th and to 60 on the 23rd. The tumor rapidly diminished in volume from April 10 so that by April 20 it could be no longer isolated and at present there is only the sensation of a deep-seated doughiness, very vague and difficult to outline. Our contemporary remarks that the recovery in the latter case was so rapid that it would be prudent to look upon it as an error in diagnosis.[1]

Intra-cranial Hematoma with Collateral Paralysis.—At the late session of the German Surgical Congress, Ledderhose of Strasburg, said that the rarity of cases of intra-cranial hemorrhage with collateral paralysis—that is to say paralysis situated on the same side as the hemorrhage—justifies him in relating a case of his own. A man of 38 was knocked down during a quarrel and was kicked in the head. After a momentary loss of consciousness he recovered and got up; a few days later symptoms of cerebral compression slowly appeared. In nine days he was confined to his bed and Ledderhose was called in three days later. The author found the patient comatose with paralysis of the right half of the body; diagnosed intra-cranial hemorrhage from laceration of the middle meningeal artery on the left, though there were no signs of fracture. At the operation no hemorrhage was found and the patient died the next day. The necropsy showed the absence of any fracture of the cranium or of laceration of the middle meningeal arteries; on the right side corresponding to the paralysis there was an enormous hematoma inside the dura mater, covering the middle and posterior part of the right hemisphere. After searching the literature, Ledderhose has been able to find but thirteen cases on record of collateral paralysis following either traumatism of the cranium or pathologic lesions. Brown-Séquard was the first to call attention to these facts. The researches of other observers, especially Pierret, have shown that there often exist considerable differences in the decussation of the fibers from the cerebral hemispheres. The crossing may be entirely absent, which would explain the possibility of collateral paralysis. Such cases will prove a source of great embarrassment to the surgeon. Diagnosis of this condition is generally impossible; sometimes edematous swelling of the pupil on the paralyzed side may lead to suspicion of the anomaly. Whenever the surgeon fails to discover any hemorrhage on the side trephined he is perfectly justified in making another opening on the other side.[2]

Communications Made to Dentists are not Privileged.—The point was recently made in a Michigan case that a statute providing that "no person duly authorized to practice medicine or surgery, shall be allowed to disclose any information which he may have acquired in attending any patient in his professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or to do any act for him as a surgeon," applies to dentists. But the Supreme Court of the State holds otherwise. (People v. De France, decided April 2, 1895.) At the common law, explains the court, information gained by a physician or surgeon while in attendance upon his patient was not privileged. The purpose of this statute was to throw around such disclosures as the patient is bound to make for the information of his attending physician the cloak of secrecy, and the prime object of the act was to invite confidence in respect to ailments of a secret nature, and the spirit

[1] Les Nouveaux Remedes, April 24, 1895.
[2] Jour. de Med. et Chir. Prat., 1895, No. 8.

[1] L'Union Medicale, May 4, 1895.
[2] La Semaine Medicale, April 24, 1895.

of the act would not include a case where the infirmity was apparent to every one on inspection. In practice, however, the statute has not been so limited in construction, for the reason that the words of the act are broad enough to include any information necessary to enable the physician to prescribe or the surgeon to act. Nevertheless, the purpose of the act is to be considered in determining whether a dentist is intended to be included within its terms. Certainly the terms "dentist," and "surgeon," are not interchangeable, and if a dentist is to be held to be a surgeon, within the meaning of this act, it must be because his business as a dentist is a branch of surgery. It is apparent, however, that the act relates to general practitioners, and to those whose business comes within the definition of "physician" or "surgeon." A dentist is one whose profession it is to clean and extract teeth, repair them when diseased, and replace them, when necessary, by artificial ones. For these reasons, the court holds that a dentist is not within the terms or the spirit of the act.

Gold Preferred to Silver.—According to the San Francisco *Post*, silver even in the form of the nitrate salt is not in favor on the Pacific slope. The *Post* says: A young lady with a touch of tonsillitis was consulting the family physician.

"That is nothing serious," said he. "I'll touch it up with a little nitrate of silver and you will be all right."

The young lady looked a bit doubtful.

"Oh, it won't hurt," remarked the doctor, reassuringly.

"I wasn't thinking of that. Papa might object."

"Why, what possible objection can he have?"

"I heard him tell mamma the other evening that he was opposed to silver. Couldn't you use nitrate of gold? Silver is so common and cheap, you know, and I am sure papa wouldn't object then."

Tuberculosis of the Biliary Passages.—At a late séance of the Biological Society of Paris, M. Sergent spoke upon the pathogeny of tuberculosis of the biliary passages which, he said, is still unknown. Two hypotheses are suggested: according to the first it occurs from without inward; according to the other from within out. In the former case the peribiliary tubercle is analogous to the peribronchial nodule; in the latter, it acts as a genuine tuberculous angiocholitis, or perhaps an ascending biliary infection. Sabourin is an adherent of the first hypothesis. While this may explain those cases in which the peribiliary tubercles are so rare that we can not discern them in a given liver, it alone does not suffice for those cases in which the liver is riddled into cavities or with peribiliary tubercles. In such cases, if the second hypothesis is not admitted, it must be supposed, in order to explain the facts by the other theory, that there is an acute or chronic inflammation of the bile passages, which serves as a *point d'appui* for the bacilli carried by the circulation. In order to clear up these questions, Sergent undertook a series of experiments which may be grouped under three heads: (*a*), inoculation of animals with tuberculous matter without wounding the bile passages in any way; (*b*), infection of the virus into the biliary ducts, with or without ligature of the ductus choledochus; (*c*), inoculation of animals and wounding the bile passages by aseptic or septic ligature of the choledochus. The animals used were the guinea pig, rabbit and dog. The author remarks that the last named is preferable, for it reacts marvellously to human tuberculosis and its bile passages are very easy to explore. The choledochus was tied with absorbable catgut so as to produce only a temporary retention of bile. In one series of experiments only one branch of the choledochus was tied, so as to have a hepatic lobe for control observations. All inoculations were made with human virus. A parallel series of experiments was also carried on to see if the tubercle bacillus was modified in its color, culture conditions or virulence by a prolonged sojourn in bile. Sergent thinks the following conclusions are justified: 1, the pathologic anatomy of biliary tuberculosis is that described by Sabourin, and corroborated by the author in a dozen cases with serial sections; 2, the tubercle bacillus does not appear to undergo any modification of its usual characteristics by a prolonged stay in bile; 3, the peribiliary tubercles, disseminated and rare, develop from without inward; these peribiliary nodules surround the biliary conduit, little by little, and end by ulcerating and emptying into the cavities, as is shown by examining animals inoculated through the veins without receiving any traumatism of the bile passages; 4, true tuberculosis of the bile passages (systematized form) may be reproduced experimentally by injecting tuberculous material into the ductus choledochus; in other words, tuberculous angiocholitis of an ascending biliary infection type may be experimentally reproduced.[1]

Uses of Calcium Chlorid.—In a clinical lecture on the uses of calcium chlorid, Dr. George Parker, Assistant Physician to the Bristol General Hospital, attempts to define more clearly its important rôle in the work of the human body with a view to securing its further intelligent employment. It is absorbed with singular ease without change and it produces certain definite and marked results. It has three main therapeutic uses: 1, as a hemostatic; 2, as a sedative to mucous membranes, and third, as a tissue builder in strumous diseases in place of the hypophosphites. Indeed it has been affirmed that most calcium salts, except the lactc- and other acid phosphates are first converted into chlorids by the gastric juice. Reference is made to the researches of Lehman, Roberts, Spanten, Kuchenmeister and others on its action in cystitis and chronic nephritis and to those of Germain See in gastric ulcer and dyspepsia. Professor Wright's experiments on the clotting of oxalated blood *in vitro* under treatment with the calcium are detailed at length and Dr. Parker has been led thereby to employ the salt in a number of cases where a temporary increase of coagulability was desired. He has found that 3 or 4 drachms of the salt well diluted can be taken without inconvenience during the day and prefers the larger doses. "For causing rapid clotting and cessation of hemorrhage I have found half-drachm or drachm doses act too well in many instances to incline me to use smaller ones. Only once, in a case of obscure abdominal tumor out of many instances did I have any complaint of palpitation, and once a slight urinary irritation appeared to follow its administration. It is, of course, difficult to say in a given case that the hemorrhage has ceased in consequence of the drug, but I have a phthisical patient with recurrent hemorrhages who, for the last three years, has taken it in drachm doses with considerable success—the only drawback being that the sputum is more difficult to expectorate; and I constantly employ the remedy for similar cases and for various forms of hemorrhages of minor severity in the outpatient room." In fine, as a hemostatic, as a gastric sedative and in the treatment of tubercular glands, the lecturer believes that the substance has established claims that warrant more attention than has of late years been given to it.[2]

Can not Quarantine for Refusal to be Vaccinated.—Every local board of health in the State of New York is required by statute of 1893 to "guard against the introduction of contagious and infectious diseases by the exercise of proper and vigilant medical inspection and control of all persons and things arriving in the municipality from infected places, or which from any cause are liable to communicate contagion. It shall require the isolation of all persons and things infected with or exposed to such disease, and provide suitable places for the treatment and care of sick persons who can not otherwise be provided for. . . . It shall provide at stated intervals a suitable supply of vaccine virus, ... and at all times provide thorough and safe vaccination for all persons in need of same." Furthermore, a provision in the charter of the city of Brooklyn is to the effect that in the presence of great and imminent peril to public health by reason of impending pestilence, it shall be the duty of the Health Commissioner "to take such measures . . . . for the preservation of the public health from such impending pestilence as he may in good faith declare the public safety and health to demand, and the Mayor of the said city and the President of the Medical Society of Kings County shall also approve, in writing." It would seem from a consideration of these provisions of law, says the Court of Appeals of

[1] La Semaine Medicale, 1895, No. 24.
[2] The Clinical Journal, March 27, 1895.

New York, in a decision rendered May 3, 1895 (*In re* Smith), that, while responsibility and a wide authority have been conferred upon the Health Commissioner in the administration of his important office, nevertheless that the statute contemplates, when persons or property are to be affected by the isolation mentioned, that the fact must exist, either that they are infected with the contagious disease or that they were exposed to it. It does not warrant the Commissioner taking the position that "wherever any person shall refuse to be vaccinated, such person shall be immediately quarantined, and continued in quarantine until he consents to such vaccination." It is difficult to suppose that the Legislature would invest local officers with such arbitrary authority over their fellow citizens, and the language of an act would have to be very plain before the courts would be warranted in giving it such a construction. Here the Legislature has done nothing of the kind. The language is sufficient to confer the needed authority to do all acts which, in his judgment, as approved by his associates in the matter, are necessary to be done to improve the sanitary conditions of the city, and to preserve the public health from being affected. That authority would, undoubtedly, be sufficient to deal summarily with cases where persons are stricken with a contagious or infectious disease, or have been actually exposed to it, and it is broad enough for every practical purpose in dealing with the facts of any case presented; but the authority is not given to direct or to carry out a quarantine of all persons who refuse to permit themselves to be vaccinated, and it can not be implied. The meaning of the particular language in the section is, and it should read, that the board of health shall "require the isolation of all persons and things infected with, or who have been exposed to, such diseases." The quarantine in this case, which it is held was not authorized, was of persons engaged in a general express business, which was, in part, carried on through what "has been," as was alleged, "one of the worst infected centers of the city." Allegations that the business might include the carrying of articles which might come from infected centers, and that the persons conducting the business might be seized with smallpox, and, if they were permitted to continue in their business without being vaccinated, they might be the means of serious consequences to other citizens with whom they came in contact, the court says, fall far short of stating facts upon which the Commissioner of Health would be authorized to take such drastic measures as to effect the imprisonment of citizens by quarantining them in their houses. This decision reverses one of the general term of the Supreme Court of New York, which reversed the special term in taking the position which is now affirmed by the highest tribunal of the State.

Society Notes.

The annual meeting of the Hennepin County Medical Society was held in Minneapolis June 3.——A regular meeting of the Peoria City Medical Society was held June 4.——At the annual meeting of the New Hampshire Medical Society held in Manchester, the following officers were elected: President, E. F. McQuesten; Vice-President, A. P. Richardson; Secretary, G. P. Conn.——At the annual meeting of Indiana State Medical Society, the following officers were elected for the ensuing year: President, Miles F. Porter; Vice-President, J. S. Larkins; Secretary, F. C. Woodburn; Treasurer, J. O. Stillson. The next meeting of this society will be held in Ft. Wayne.——The annual meeting of the Scott County Medical Society was held at Davenport, Iowa, June 6. The following officers were elected: President, J. W. H. Baker; Vice-President, F. L. LeClaire; Secretary, A. R. Nichol.——The Ontario Medical Association held its annual meeting at Toronto, June 5, 6 and 7.——A regular meeting of the Luzerne County Medical Society was held in Scranton, Pa., June 5.——The East Illinois Valley Medical Society held a regular meeting in La Salle, Ill., June 4.——The annual meeting of the Monroe County Medical Society was held in Rochester, N.Y., May 31. The following officers were elected: President, W. Sibley; Vice-President, H. T. Williams; Secretary, F. Remington.

Louisville Notes.

Leachman.—Dr. Leachman, reported in the last Journal as being dangerously ill, is much improved, and hopes are entertained for his permanent recovery. He will go to French Lick Springs for a rest and will be accompanied by Dr. J. W Guest, who will remain at the Springs during the summer.

Academy of Medicine.—At the meeting February 20 a paper was read by Dr. Henry E. Tuley on "Milk," in which he pointed out the necessity of a radical change in the present loose system of conducting the production and sale of this article. The paper was interestingly discussed and was considered of such importance that it was made the special order for discussion at the June 3 meeting, with Dr. J. A. Larrabee to open the discussion. He read a paper at this meeting, and as a result of these meetings a committee consisting of Drs. J. M. Mathews, J. B. Marvin, J. A. Larrabee and Henry E. Tuley was appointed to draft a suitable ordinance looking to the production and sale of milk, which is to be submitted to the Academy for discussion; it is to be then indorsed by the Academy, and Dr. McDermott, the former President of the Academy, who is a member of the common council, has promised his support to the new measure, and will endeavor to have it passed. The ordinance will have embodied in it a sufficient appropriation to carry on the work.

Wathen.—Dr. W. H. Wathen has recently returned from the meeting of the American Association of Obstetricians and Gynecologists which was held in Baltimore. He read a paper on "Vaginal Hysterectomy for Uterine Myomata and Bilateral Disease of the Adnexa."

Washington Notes.

Medical Society of the District.—At the meeting of the Society held on the 5th inst., Dr. Bryan read a very valuable contribution to the study of suppurative diseases of the accessory sinuses, and reported some cases treated. Dr. Bovee read a paper entitled, "My Experience in the Treatment of Pelvic Pus Cases, Celiotomy." Dr. H. L. E. Johnson reported a "Case of Functional Blindness cured by Removal of two small Ovarian Tumors." These were presented together with other specimens removed by abdominal section. The meeting was made more attractive by the full discussions which followed on each subject.

The Washington Obstetrical and Gynecological Society.—The two hundred and thirtieth meeting of the society was held on the 7th inst., to listen to a most interesting and carefully prepared Essay on "Criminal Abortion," by Dr. J. Foster Scott. The discussion was opened by Dr. Joseph Tabor Johnson. Dr. H. L. E. Johnson presented specimens of ovarian cysts, and tubal disease, removed since the last meeting.

Health of the District.—The report of the Health Officer for the week ending June 1 is as follows: number of deaths (still-births not included): White, 50; colored, 32; total, 82. Death rate per 1,000 per annum, white, 14.73; colored 17.95; total, 13.7. Death rate per 1,000 per annum for corresponding week last year, 24.6. The ordinary zymotic diseases continue to be rare in fatal form, except the diarrheal maladies, which numbered 4 victims. The mortality from typhoid fever seems to be on the decline. In the first quarter of the present fiscal year the deaths from this disorder numbered 89; in the second quarter, 70, and in the third quarter, 13, while in the month of April there was but one death thereform. So with diphtheria. Beginning with 49 deaths in the first quarter, they rose to 55 in the second quarter and fell to 17 in the third quarter, with but 1 death from this malady in April. Diseases of the circulatory, respiratory or cerebral organs present no salient feature, and a general view of the health of the city is altogether favorable.

Philadelphia Notes.

A DONATION OF HALF A MILLION OF DOLLARS TO THE UNIVERSITY OF PENNSYLVANIA.—Mr. Charles C. Harrison, who for the past year has been Acting Provost, was elected Provost of the University of Pennsylvania on the 4th inst. Upon accepting the office, he announced his intention of presenting, as a special endowment fund, the sum of $500,000, the income to be devoted exclusively to educational purposes, and not for building. His idea in making this magnificent foundation was to honor the name of his father, Mr. George Leib Harrison, well known as a writer upon social, economic and educational problems to the practical solution of which he devoted the greater part of his leisure, while successfully conducting a large business of which he was the head. The conditions of this donation have not been definitely or finally settled, but it is understood that it is intended to be principally devoted to founding scholarships, for extending post-graduate instruction, and in assisting teachers to devote themselves to special branches of instruction for which they are particularly adapted, but from which, otherwise, the want of funds would debar them.

COLLEGE OF PHYSICIANS.—The monthly meeting of the College of Physicians was held June 5. Dr. Thos. S. K. Morton described a method devised by Gaillard Thomas, some years ago, of removing benign tumors from the female mammary gland without producing visible scar. The plan recommended was to make the line of incision correspond with the natural crease in the skin, seen when the patient is in a standing position. After incising the skin (four to five inches being enough), the capsule of the mammary gland is dissected from the chest muscles, and the gland turned up so as to expose the growth, which is then excised from beneath and the gland returned to place, without cutting any of the lactiferous ducts or having any hemorrhage. A case was reported by Dr. Morton in which, after the operation had been done, the hair-line cicatrix was perfectly covered by the natural sagging of the mammary gland, and there was no visible evidence of any operation having been performed. The cosmetic value of this method is obvious to patients and may suffice to overcome objection to what is regarded as a mutilating operation. It is a matter of considerable importance to a woman who expects to marry. This operation is restricted to non-malignant growths.

DR. CHAS. W. DULLES read a paper entitled "Remarks on Hydrophobia," in which he stated that the danger of this disease is very much overestimated. Even after the bite of a rabid dog, the proportion of cases which develop hydrophobia is very much smaller than is usually held to be the case. He insisted upon the great need of a more careful diagnosis, and reported cases of uremia, and nervous disease, which had been called lyssa until the autopsy revealed their true character. He strongly condemned the use of nitrate of silver and never cauterized nor excised the wounds, but simply cleansed them and applied an aseptic moist dressing. During the past eight years he has not had a case of hydrophobia to develop in his cases, and therefore can claim a better death rate than even the Pasteur method has given.

DR. S. SOLIS-COHEN exhibited a small instrument which was a development or a modification of the Ramage tube for respiratory gymnastics in the treatment of pulmonary consumption. By breathing through the instrument, the current of air is controlled by two valves, which graduate the pressure to any desired degree, thus producing the effect of inspiring rarefied air and expiring into a condensed atmosphere. Dr. Cohen also presented a case of phthisis under treatment for a year, in a young medical man who had gained three inches in expansion of the chest, twenty-seven pounds in weight, and all signs of pulmonic consolidation had disappeared together with the bacilli from the sputum.

DR. JOHN H. MUSSER reported a very interesting case of "Multiple Carcinoma of the Bones." The primary lesion was located in the lower jaw, at the base of the molar teeth, which had been extracted, leaving a growth resembling an epulis, but which proved to be encephaloid cancer. In the course of the case, nodes developed under the periosteum of the long bones and spontaneous fractures subsequently occurred in one clavicle, one rib, one humerus and both femora. Polyuria was a prominent feature in the case. The temperature was about normal (99 to 100 degrees). The patient was intensely anemic, had repeated hemorrhages, and died a few hours after a profuse hematemesis. At the autopsy, it was found that the stomach was dilated and otherwise normal. The bleeding had come from an artery in the base of a perforating duodenal ulcer. The patient had been under observation about four years, since the nodes had been first observed, and had even before this complained of digestive disorder, but no symptom calling attention to the ulcer of the duodenum had been observed during life. There was no attempt at bony union after fracture, but the bones were supported by a mass of new growth which was found to be encephaloid cancer.

In discussing Dr. Musser's case, Dr. Thos. S. K. Morton reported the only case of the kind that had come under his observation. It was a young woman who had had two operations for encephaloid disease of the mammary gland. While walking across the floor she fell and fractured the femur. Suspecting the nature of the disease and that her fall was due to the giving way of the bone affected by secondary cancer, an unfavorable prognosis was given. The patient died in six days and at the autopsy there was found only a mere shell of bone, the interior being the site of a secondary encephaloid cancer.

THE PUBLIC SERVICES.

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from June 1, 1895, to June 7, 1895.

Capt. RUDOLPH G. EBERT, Asst. Surgeon, so much of the order as directs him to report in person to the commanding officer, Ft. Columbus, N. Y., for duty at that post, is amended to direct him to report for duty at Vancouver Bks., Washington, relieving Capt. WILLIAM H. ARTHUR, Asst. Surgeon. Capt. ARTHUR, on being thus relieved, will report for duty at Ft. Columbus, N. Y.

Major TIMOTHY E. WILCOX, Surgeon U. S. A., is granted leave of absence for one month and fifteen days, to take effect on his arrival in New York City, en route to his station in the Dept. of the East.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending June 8, 1895.

Surgeon J. E. GARDNER, detached from naval station, New London, Conn., and wait orders to sea duty.

P. A. Surgeon CLEMENT BIDDLE, detached from naval hospital, Chelsea, Mass., and to naval station, New London, Conn.

Surgeon FRANKLIN ROGERS, detached from U. S. R. S. "Wabash," and to the Navy Yard, Boston, Mass.

Surgeon J. L. WILSON, detached from Navy Yard, Boston, Mass., and to the U. S. R. S. "Wabash."

LETTERS RECEIVED

Axford, M., Mendon, N. Y.; Alta Pharmacal Co., St. Louis, Mo.; Ammerman, C. R., Longmont, Colo.; Ashmun, G. C., Cleveland, Ohio.

Bloodgood, Delevan, Shelving Rock, N. Y.; Battle & Co., St. Louis, Mo.; Bodine, J. M., Louisville, Ky.; Brown, A., Aniwa, Wis.; Billingslea, M. B., Baltimore, Md.; Burnett, C. H., Philadelphia, Pa.; Boyd, J. P., Santa Ana, Cal.; Brodbeck, Jno. R. Codorus P. O., Pa.; Bradley, J. S., (2) Madison, Wis.

Cain, J. S., Nashville, Tenn.; Chaille, S. E., New Orleans, La.; Clark, John H., Mechanicsburg, Ohio; Cumberworth, W. H., Bennett's Corner, Ohio.

Dal, J. W., Chicago, Ill.; Davis, C. G., Chicago, Ill.; Dios Chemical Co., St Louis, Mo.

Ellis, P. V., Ghent, Ky.

Fairman, E. W., Broadhead, Wis.

Godfrey, B. B., Hudsonville, Mich.; Gates, L. M., Scranton, Pa.; Gibbs, T. J., Proctor, Mo.

Holland, J. W., Philadelphia, Pa.; Hill, A. H., New York, N. Y.; Haldenstein, J., New York, N. Y.; Hofmann, J. H., San Francisco, Cal.; Harsha, Wm., Chicago, Ill.; Howell, G., Tecumseh, Mich.; Hummel, A. L., (2) Philadelphia, Pa.

Johnson, R. W., Baltimore, Md.

Knox, C. S., Superior, Wis.; Koelling & Klappenbach, Chicago, Ill.; Kohl, Julius, Belleville, Ill.; Kenyon News & Postal Subscription Co., Chicago, Ill.

Loeb, H. W., (2) St. Louis, Mo.; Lehn & Fink, New York, N. Y.; Langworthy, S. B., Leavenworth, Kan.; Lord & Thomas, (2) Chicago, Ill.

Martin, F. H., Chicago, Ill.; Minnesota Book Manufacturing Co., Minneapolis, Minn.; Mellier Drug Co., St. Louis, Mo.; Marks, A. A., New York, N. Y.; Morse, Lyman D., New York, N. Y.; McGahan, C. F., Bethlehem, N. H.; Mason, L. D., Greenwich, Conn.; McLain, J. S., Ocean City, Md.; Maxey, H. E., Chicago, Ill.; Mudd, H. H., (2) St. Louis, Mo.

Nash, G. W., Indianapolis, Ind.

Parker, W. Thornton, Groveland, Mass.; Parke, Davis & Co., Detroit, Mich.; Pierce, Lorich, Washington, D. C.; Parmele, C. R. Co., New York, N. Y.

Reed & Carnrick, New York, N. Y.; Robbins, Joseph, Quincy, Ill.

Stuart, J. H., Minneapolis, Minn.; Stearns, F. & Co., Detroit, Mich.; Strong, H., Lake Geneva, Wis.; Spalding, Warren C., New York, N. Y.; Scheiffelin, W. H. & Co., New York, N. Y.; Stephenson, W. J., Decatur, Neb.; Savage, G. C., Nashville, Tenn.; Schulze, Berg & Koechl, New York, N. Y.; Smith, G. W., Holidaysburg, Pa.; Steele, A. J., St. Louis, Mo.

Thwaites, R. G., Madison, Wis.

Veasey, C. C., Philadelphia, Pa.

Warner, W. R., & Co., (3) Philadelphia, Pa.; Williams, C. H., Chicago, Ill.; Wyman, Walter, Washington, D. C.; Wick, D. M., Cedar Falls, Iowa; Woodruff, J. C., Charleston, S. C.